Observaciones sobre la Ornitología de la ZONA SUR parte ~~austral~~ de Veracruz, México.

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En el extremo nordeste del gran istmo de Tehuantepec, en la parte meridional del Estado de Veracruz, se levanta la Sierra de Tuxtla, como una masa montañosa aislada, ~~aislado~~, ~~separada~~ SEPARADA de la amplia Meseta Central de México por extensas ~~tierras bajas~~ LLANURAS. Como la región permanece casi completamente aislada la distribución de su avifauna es escasamente conocida. ~~APROXIMADAMENTE~~ Entre los años 1850 y 1860 ~~aproximademente~~, Philip Lutley Sclater de Inglaterra obtuvo algunos especimenes de aves que parecen proceder de esta región ~~puesto~~ YA que en algunos de ellos se encuentran las ~~singularides de~~ PARTICULARIDADES DE ~~OTRAS~~ especies procedentes de este territorio. En ocasiones, ALGUNOS naturalistas, al penetrar la ~~margen~~ HASTA LA ORILLA de la región en Tlacotalpam, obtenian alguno que otro ejemplar; y en abril y mayo de 1894 los bien conocidos viajeros científicos E. W. Nelson y E. A. Goldman mientras viajaban ~~en interés~~ POR ~~CUENTA~~ cuenta del Biological Survey del Departamento de Agricultura de los Estados Unidos, hicieron un reconocimiento del terreno, tomando algunos apuntes sobre las aves, pero dedicando su atención principalmente a los mamíferos y a un rapido estudio de las "Life Zones".

parecío importante y me

Teniendo esto en cuenta me fué interesantisimo penetrar ~~el~~ A LA ~~territorio~~ REGIÓN ~~por espacio de~~ DURANTE marzo y abril de 1939 y ~~hacer durante~~ FORMAR EN estos dos meses colecciones de ~~las~~ aves. Me ~~localizé~~ ESTABLECÍ en el campamento que servía de base a las expedici~~ec~~iones arqueológicas ~~a~~ EN Veracruz de la Sociedad Geográfica Nacional y la Institución Smithsoniana, radicado en Tres Zapotes, pueblito equidistante de Tlacotalpam cerca de la desembocadura del Río Papaloapan y San Andrés Tuxtla no muy ~~distante~~ SEPARADO ~~de la~~ DEL pie occidental de la Sierra de Tuxtla. ~~Al~~ EL siguiente año, 1940, cuando otras obligaciones me impidieron regresar, me puso de acuerdo con ~~el~~ EL señor don Melbourne A. Carriker, hijo, veterano en ~~cuestion~~ asuntos ~~ASUNTOS~~ de colecciones en los países tropicales, para que ~~el~~ continuase los estudios ~~desde~~ DE enero a mayo, de manera que en nuestros especimenes ~~tenemos~~ TENGAMOS una excelente representación del avifauna del Canton de las Tuxtlas. La colección completa se compone de 291 formas distintas con ejemplares del ~~mejor~~ MAYOR numero de las especies ~~a~~ CON excepción de las más ~~corrientes~~ COMUNES aves acuáticas.

La región está situada en la parte húmeda de la zona Tropical ~~donde~~ Y, en contraste con los terrenos secos que la ~~avecinan~~ CIRCUNDAN, las lluvias, son fuertes, ~~salvo~~ EXCEPCIÓN HECHA DE una corta estación seca durante los meses ~~desde~~ DE marzo ~~hasta~~ A mayo. En ~~conjunto~~ GENERAL, la tierra no tiene grandes elevaciones, el promedio de altura en Tres Zapotes ~~siendo~~ ~~ES DE~~ ~~siendo~~ es de unos 60 metros sobre el nivel del mar. La influencia de la marea es ~~evidente~~ MANIFIESTA en el Río San Agustín en ~~la~~ LA Boca ~~de~~ DE San Miguel, a menos de 15 kilómetros de distancia del campamento ~~en~~ DE Tres Zapotes. La parte occidental de la sierra ~~es dividida en~~ COMPRENDE cuatro cerros principales, el más alto, ES EL Volcán San Martín, QUE tiene casi 1675 metros de altura, ~~el~~ EL Cerro de Tuxtla 1220 metros, y

el Cerro Prieto cerca de 1160 metros. No escalamos el cuarto, LLAMADO Cerro Vigia con una altura de 1250 metros, ~~el que~~ PORQUE en realidad no es otra cosa que una ~~espuela~~ rama ESTRIBACIÓN del San Martín. La sierra ~~entera~~ TODA es de estructura volcánica y el Volcán San Martín estuvo ~~activo~~ EN ACTIVIDAD en 1662 y también en 1793. El botanico José Mariano Moziño nos ha dejado un relato detallado de la última erupción, la que empezó el 2 de marzo y continuó violenta hasta septiembre, disminuyendo luego gradualmente. Aunque Moziño visitó el crater ~~vigente~~ como ESTABA en septimebre 23 y noviembre 21 de 1793, le hicieron tal impresión ~~los aspectos~~ LOS EFECTOS físicos de las erupciones, que dijo muy poco sobre ~~sus efectos~~ LA INFLUENCIA DE ESTAS en la flora y fauna, Anotando solamente los estragos ~~hechos a la capa vegetal~~ CAUZADOS EN LA VEGETACIÓN de la selva, la que según él estaba destruida HASTA LA distancia de diez leguas a lo largo del camino que cruza la montaña de Tecolapan, de tal manera que solamente podian contemplarse troncos quemados de los arboles y grandes cantidades de cenizas ~~cop~~ extendidas por las pendientes.

En la ~~superficie de la~~ masa montañosa, hacia el centro, está el Lago Catemaco; más allá, hacia oriente, otra serie de cerros grandes, entre ellos San Martín Pajapan que se encuentra sobre Coatzacoalcos (Puerto México), y el que no debe confundirse con el Volcán San Martín anteriormente mencionado en este trabajo, y que está arriba de San Andrés Tuxtla. Tambien ~~encontramos~~ APARECEN el Cerro Santa Marta y el Cerro Campanario. Estos últimos aún no han sido estudiados biológicamente pues según tengo entendido todavia no han sido ~~penetrados~~ EXPLORADOS por ningún naturalista.

Según he expuesto ~~anteriormente~~ CON ANTERIORIDAD toda la extensión de la Sierra de Tuxtla es una masa montañosa aislada de la Meseta Central de México por grandes vegas. Al oeste y sudoeste yacen los ríos San Juan y Papaloapan

X X D.

Insert/ Los terrenos, ~~después de limpiados~~ después de aclarados, se cultivan por espacio de cuatro o cinco años, ~~cuando~~ ~~están invadidos por~~ a las ~~abundantes~~ garrapatas, ~~y cuando~~ de tal manera que cuando la yerba correosa se desarolla impide trabajar a los pequeños y ligeros arados que, uncidos a un animal o manejados por un hombre, se utilizan para romper el terreno y

los que conjuntos desembocan al mar en Alvarado. Una pequeña cresta divisoria separa este sistema de ríos del valle del Río Coatzacoalcos y las prolongaciones de sus tributarios que yacen al sudeste de la sierra, desembocan al mar en Coatzacoalcos. Las lluvias son fuertes de manera que numerosas riachuelos de agua cristalina nacen cerca la base de la sierra. En los partes altas corren rapidamente formando cascados para luego al atravesar las llanuras tornarse perezosos ~~a menudo~~ A MENUDO convirtiendose en pantanos o ciénagas ~~de~~ fangoSAS.

Los anchos declives a todo el largo del nacimiento de las montañas que rodean a Hueyapa, Tres Zapotes y ~~Lirios~~ Lirios, extendiéndose hasta Saltabarranca y Mesón, han sido el domicilio de una población agrícola por espacio de 2,000 o mas años como puede atestiguarse por una serie de ~~túmulos~~ ANTIGUOS montículos ~~antiguos~~, que prolongándose por millas, marcan el punto donde existió ERON moradas y templos de tiempos remotos. Probablemente, el sistema que ~~al presente~~ EN LA ACTUALIDAD se usa ~~en~~ PARA el cultivo del maíz, frijol, y ~~cosechas afines,~~ OTROS SEMEJANTES y que se lleva a cabo en pequeños sembrados conocidos ~~por~~ CON EL NOMBRE DE milpas, ha estado en boga durante la mayor parte de este período, habiendo de tiempo en tiempo ~~fluctuaciones~~ VARIACIONES en el número de habitantes.

Los terrenos, después de ~~aclarados~~ LIMPIADOS, se cultivan por espacio de cuatro o cinco años, y ~~retornan a ser dehesa~~ SON ABANDONADOS, SE infestan ~~por~~ DE garrapatas, y cuando la yerba correosa se ~~arraiga~~ DESARROLLA ~~de tal manera que adquiere ascendencia~~ IMPIDE TRABAJAR A ~~sobre~~ los pequeños y ~~livianos~~ LIGEROS arados que ~~maniobrados por animal o mortal~~ UNCIDOS A UN ANIMAL O MANEJADOS POR UN HOMBRE se utilizan para ~~revolver~~ ROMPER el terreno. ~~Dentro de~~ DESPUES DE dos o tres años aparecen arbustos y ~~de~~ A LOS quince a veinte se desarrolla un bosque ~~renacido~~ NUEVO con matorrales de poca altura, ~~el~~ que con el tiempo vuelve a ser despejado de su maleza para cultivarse ~~nuevamente~~ OTRA VEZ. A lo largo de las pequeñas

barrancas que abundan en la región la tierra, está ~~propensa~~ EXPUESTA a inundación ES POR LO ~~así~~ que es inadaptable para LA labranza. Aqui, ~~primitivos~~ espesos bosques PRIMITIVOS, cuajados de espléndidos árboles, permanecen en estado virgen y SON profanados solamente cuando una regia ceiba o algún otro hermoso árbol ES CORTADO ~~se corta~~ para que su madera SE UTILICE EN ~~supla~~ fines especiales.

Cerca de los ríos más grandes, como en Tlacotalpam y al otro lado de LA Boca de San Miguel, la tierra es llana, conteniendo muchas lagunas y pantanos próximos a los arroyos, ASI COMO EN ~~tambien hacia~~ el interior matorrales de poca altura y espinosos montes bajos, los que durante la estación de lluvia permanecen en agua POCO ~~no~~ profunda. Pequeños trechos de llanuras ~~a campo travieso~~, más a menos pantanosas, aparecen EN LAS ~~a~~ orillas del terreno que se describe. A la margen de la costa situada hacia el sur de Alvarado, hay una sucesión de colinas bajas, arenosas, que probablemente son antiguas dunas en las que SE ENCUENTRAN ~~a ciertos~~ trechos DONDE HAN ~~han~~ crecido yerbas y ESPESOS ~~densos~~ matorrales.

En las montañas que examinamos las lomas más bajas han sido extensivamente TALADAS ~~aclaradas de bosque~~ pero las profundas cañadas y las regiones más altas permanecen con su frondoso ropaje de magníficos y descollantes árboles. La región es, esencialmente, ~~una~~ de matorral y DE selva con CULTIVOS EN LAS ~~cultivación de~~ tierras bajas, diferiendo así del aspecto más árido y más desprovisto de árboles que presentan las COMARCAS ~~secciones~~ contiguas del Estado de Veracruz.

La extensión mayor de la región a que hacemos referencia en este trabajo ESTA LOCALIZADA ~~yace~~ en la parte húmeda de la Zona Tropical. Es confinada, ~~Es confinada~~, como puede verse por las sabanas que se intercalan irregularmente en las

orillas del bosque, ~~por~~ por la parte árida de la Zona Tropical. De acuerdo con las notas manuscritas del doctor E. W. Nelson, ~~las~~ que actualmente se encuentran en los archivos del Fish and Wildlife Service, Departamento del Interior de los Estados Unidos, ~~se encuentran~~ EXISTEN condiciones áridas en medio de los valles y collados situados al occidente del Lago Catemaco y nuestras observaciones indican que dicha sección árida se prolonga dentro de los cerros arenosos del litoral y las sabanas cerca de Tlacotalpam.

En la costa de El Conejo, Carriker encontró el ruiseñor, Mimus polyglottos leucopterus, y en este MISMO sitio ~~encontramos~~ conseguimos nosotros ejemplares de ciertos pájaros septentrionales migratorios que habitan las partes más secas y más al descubierto, tales como son los fringílidos, Chondestes grammacus strigatus, Ammodramus savannarum pratensis, y el tiránido Myiarchus c. cinerascens. La paloma Inca, Scardafella inca, así como la rolita, Columbigallina passerina pallescens, también se encuentran ~~aquí.~~ EN ESTE LUGAR.

Los terrenos cenagosos de las sabanas y las riberas de los ríos albergan abundantes cantidades de tiguas o zaramagullones, garzas, cocos, y martín pescadores además de otras aves acuáticas que migran del norte. Estas ~~consisten de~~ COMPRENDEN especies variadas de patos, el alcatraz blanco, Pelecanus erythrorhynchos, y en ocasiones gaviotas, golondrinas de mar, y varias playeros. La jácana, Jacana spinosa gymnostoma, es muy común, y el curioso Heliornis fulica se encuentra aquí, cerca a su límite norte. Entre las aves de rapiña el milano de rabo blanco, Elanus leucurus majusculus, el caracolero, Rostrhamus sociabilis major, el halcón de Harris, Parabuteo unicinctus harrisi, y el Busarellus n. nigricollis son también característicos de las especies más grandes.

La región de Tres Zapotes y los collados limítrofes dan abrigo a una gran variedad de aves que habitan en las tupidas bosques tropicales de la localidad, y mezcladas con ellas se encuentran especies de los campos abiertos las que a orillas de los campos cultivados hayan una región análoga a la que acostumbran a habitar. Las especies acuáticas ~~acontecen~~ PULULAN en las lagunas y pantanos de modo que la variedad del avifauna es grande. En conjunto, exceptuando los cambios ecológicos que se hacen indispensables al efectuar la preparación del terreno para el cultivo, las aves de la región viven ~~sin ser~~ SIENDO apenas molestadas, ~~pues~~ YA QUE las personas que moran en estos lugares no las destruyen y cuando los susodichos cambios ecológicos ocurren, las especies afectada por ellos tienen gran abundancia de sitios ~~ø~~ CE rcanos donde poder refugiarse. Los muchachos de la comarca a veces encuentran ~~entretención~~ DIVERCIÓN matando aves con hondas; y en el pueblito se pueden ~~conseguir~~ VER algunas escopetas, pero la gente no caza mucho ~~debido~~ POR ~~al~~ EL costo de los cartuchos. Vimos algunas patos zarceles (Querquedula discors) ~~muertas~~ CAZADOS durante su migración primaveral, y hubo ocasión en que un cazador matara varias garzas o chachalacas. También vimos hombres y muchachos en los maizales, al amanecer, parados en pequeñas plataformas algo elevadas, desde donde gritaban y tiraban piedras a los tordos y pichos para espantarlos. Fuera de esto no parecía que la gente prestara gran atención a la abundante cantidad de aves en los alrededores. En realidad, gran variedad de especies obtenidas en pieles para el museo eran del todo desconocidas por los viejos patriarcas del pueblo que habían permanecido toda su vida en contacto diario con los campos y bosques sin haberlas notado nunca. En fin, tanto los hombres como los muchachos solamente ~~tenían~~ TIENEN familiaridad con la clase de aves que se encontraban en las espesuras que rodeaban sus milpas o en las ~~alamedas~~ ~~Bosquejes~~ BOSQUES de árboles en los potreros, del resto

no ~~reconocían~~ EN a los habitantes de los matorrales ~~cubiertos de bosque~~ ASI como tampoco a los de los selvas ~~primordiales~~ PRIMITIVAS completamente virgenes donde jamás ~~había habido~~ HA EXISTIDO cultivo alguno.

La chachalaca (Ortalis vetula vetula) ~~era~~ ES más abundante en este sitio que en ningún otro que yo haya visto nunca; tempranito por las mañanas oía yo sus gritos asperos ~~de~~ POR todos lados. Las palomas silvestres, al igual que las perdizes (Tinamidae) de distintas clases, ~~eran~~ SON también muy comunes, pero estos últimos ~~eran~~ SON tan cautelosos que solamente y en muy raras ocasiones podían verse.

La avifauna de los llanos y planicies es esencialmente la que se encuentra en los ~~tupidos~~ bosques humedos TUPIDOS ~~les~~ que en conjunto ~~son~~ son más ~~análogos~~ SEMEJANTES a las regiones situadas al sur que a las del norte. Por lo tanto, es esta extensión una donde, en las especies plásticas, predomina la estirpe morena en contraste con la clara que generalmente caracteriza la península de Yucatán y sus alrededores áridos. Como un ejemplo podemos mencionar al Saltator atriceps tan común y ~~extensivamente~~ EXTENSAMENTE distribuído desde Tamaulipas hasta Panamá. Ordinariamente tiene un cuello blanco; en la región de Tuxtla esta especie tiene el cuello color castaño obscuro como también es en general más obscura su pigmentación; debido a ésto lo he denominado como una sub-especie distinta, llamándole ~~S. a.~~ Saltator atriceps suffuscus.

Ya se ha indicado que el ruiseñor (Mimus) no viene en Tres Zapotes ~~aquí~~. Tampoco ~~no~~ abundan las golodrinas (Hirundinidae).

Las aves migratorias que vienen de sus ~~nidales~~ CRIADEROS en los Estados Unidos y el Canadá se encuentran en gran abundancia porque aquí, en el

extremo norte del istmo de Tehuantepec, la extensión de tierra ~~es~~ SE reducida en de manera tal que las ~~hueste~~ BANDADAS de ~~aves~~ avecillas viajeras a la América Central se encuentra reconcentrada en un trecho muy angosto. De las 291 formas que registramos, 86 son sin duda habitantes del norte en el verano. En este número no están incluidas algunas de las garzas que se encuentran en gran cantidad, ni tampoco otras ~~pájaros~~ aves acuáticas que como especies son residentes de esta parte de México, apesar de que varios ~~individuos~~ EJEMPLARES, que se ven en el invierno son, sin duda alguna, emigrantes del norte. Los especies de Mniotiltidae que incluyen bijiritas, pizpitas y candelitas al igual que otras avecillas diminutas, vienen al norte atravesando la extensión de Tres Zapotes durante la primavera, en bandadas tan abundantes que a menudo se ven las campiñas y espesuras cuajadas de ellos por espacio de uno o dos días. También ví migración de las auras, (Cathartes aura), pues además del ~~usual~~ COMUN morador típico ví grandes ~~bandadas~~ BARBADAS que indiscutiblemente estaban formadas por una de las subespecies que pertenecen ~~en el~~ AL norte. Volaban muy ~~en~~ alto, ~~retornando~~ VOLVIENDO a sus criaderos en los Estados Unidos y Canadá despues de haber permanecido durante el invierno en alguna comarca situada al sur. Pero lo que más llamaba la atención ~~era~~ SON las bandadas de halcones de rabo blanco de Sennett, (Buteo albocaudatus hypospodius), entre los que podía notarse algunos individuos de otras especies, que a fines de marzo y principios de abril atraviesan el cielo en ~~bandadas~~ GRUPOS, volando despacio ~~tornando~~ en espirales, con rumbo constante hacia el norte. Durante algunas mañanas se podía ver ~~desaparecer~~ PASAR una bandada compuesta de cincuenta o más, seguida por otra y otra maravillándome al pensar cuantas y cuantas pasaban en el transcurso de un día.

También es muy interesante notar los movimientos migratorios de algunas especies tropicales. Un especie de bien-te-veo, (Vireo flavoviridis flavoviridis), que permanece durante el invierno ESPECIALMENTE ~~principalmente~~ en el norte de Sur América, regresa a la región de Tres Zapotes durante los primeros días de abril. El primero de abril también aparece, viniendo de ~~la parte~~ más al sur, un tiránido (Myiodynastes luteiventris), el que anida aquí. El tapa camino o pauraque de Merrill (Nyctidromus albicollis merrilli), y un especie de pecho amarillo (Tyrannus melancholicus couchi), que anidan AUN al nordeste de México y algo más al norte, casi dentro del territorio de los Estados Unidos, se encuentran aquí durante el invierno, mezclados con otras subespecies análogas que son nativas.

En las elevaciones altas de la cumbre de la Sierra de Tuxtla y ~~de la~~ del Volcán DE San Martín hay una pequeña extensión de terreno que SE ENCUENTRA encuentra ~~descansa~~ en la zona subtropical, pero demasiado pequeña para CONTENER ~~sustentar~~ un número considerable de la fauna característica de esta zona. Esta región COMPRENDE ~~consiste en~~ partes de densos y obscuros bosques de grandes árboles, tupidos por matorrales, O en otras partes, las selvas, que son más claros, ~~con los árboles.~~ Las especies de allí que a CONTINUACIÓN ~~región~~ citamos, son aves que se consideran ser POR ANALOGÍA DE LA REGIÓN ~~de analogía~~ subtropical.

Oreopeleia lawrencii carrikeri

Campylopterus hemileucurus hemileucurus

Pampa pampa excellens

Allocorhynchus prasinus prasinus

Lepidocolaptes affinis affinis

Xenicopsoides montanus variegaticeps

Empidonax flavescens imperturbatus

Turdus assimilis leucauchen

Myadestes unicolor unicolor

Catharus mexicanus mexicanus

Myioborus miniatus molochinus

Basileuterus culicivorus culicivorus

Basileuterus belli scitulus

Piranga leucoptera leucoptera

Chlorospingus ophthalmicus opthalmicus

Atlapetes apertus

Esta zona subtropical es una de gran interés en el mundo entero, ~~tanto~~ para el naturalista ~~como para el zoográfico~~ pues en las frescas y sombrosas PROFUNDIDADES ~~obscuridades~~ de sus bosques se encuentra una gran variedad de especies y subespecies que no vagan por las llanuras. En la América Central y en la parte norte de Sud América el límite más bajo de la zona subtropical se encuentra claramente definido de manera que la línea de transición entre la Zona ~~el~~ tropical y la ~~el~~ subtropical es muy reducida.

LA AVIFAUNA ANTES
~~El elemento~~ subtropical ~~arriba~~ mencionado, se encuentra, en la Sierra de Tuxtla cerca al límite norte. POR ESTO ~~Aquí, entonces~~, su tendencia es descender, ya bien sea regular o casualmente, a los sitios menos elevados, lo que no sucede en las regiones MÁS AL SUR ~~australes~~. Por este motivo se TIENE ~~adquiere~~ la impresión DE que la línea de demarcación entre las zonas tropicales y subtropicales no es tan precisa como lo es generalmente en aquellas otras más hacia el sur. Solamente encontramos ésto

razonable cuando nos detenemos a pensar y nos damos cuenta de que la parte norte del istmo de Tehuantepec es de todos los sectores tropicales de America, ~~el~~ uno de ~~ellos~~ Los que queda más al extremo norte. A consecuencia de ésto el número de~~l~~ los elemento~~s~~ subtropical~~es~~ se reduce en la superficie exterior de su esfera de actividad, pues como es natural, les tiene~~n~~ que afectar los períodos de fuertes y largas lluvias, con sus consiguientes bajas en la temperatura, además, DE las tormentas que de noviembre a marzo azotan continuamente la región, procedentes de los llanos del norte, y que ~~aquí~~ en México se les conoce CON EL NOMBRE DE ~~por~~ "nortes". Por ~~eso~~ ESTO, aves de la zona subtropical en la Sierra de Tuxtla, tienen que vivir en elevaciones más bajas que las del mismo grupo en la América Central, y por consiguiente se les encuentra ~~bajando~~ regularmente EN ~~a~~ las elevaciones de 600 a 900 metros sobre el nivel del mar. Es más, cuando se está en el período más frío del año, pueden algunas descender a la verdadera sección húmeda tropical, alrededor de Tres Zapotes, a unos 60 metros más o menos sobre el nivel del mar. De este modo, entre las formas catalogadas como propiamente características de las selvas subtropicales de las montañas, ~~el~~ el Basileuterus ~~culicivorus~~ culicivorus se encontró como vagabundo en las llanuras, donde lo adquirimos, el 26 de enero, en Tres Zapotes, y el 7 de febrero, en Tlacotalpam. También obtuvimos el 17 de enero, en Tres Zapotes, otra avecilla perteneciente a bosques situados en montañas de gran altura, el Chlorospingus ~~ophthalmicus~~ ophthalmicus. Es muy posible que se encuentren morando en estas llanuras pequeños grupos de estas especies típicos de la zona subtropical, pero quizá ~~si~~ es más seguro que en muchos ~~ha~~ cambios de altura sean ocasionados por la necesidad de buscar alimento, y a causa del frío y la inclemencia del tiempo durante el invierno.

Es de notarse que el Lepidocolaptes affinis affinis se encuentra también aquí a una altitud mucho más baja de lo normal, en Centro América.

ANTES INDIQUE YA
~~Anteriormente se anotó~~ que encontré una subespecie en la región de Tres Zapotes, Saltator atriceps suffuscus, con cuello castaño y de colorido mucho más obscuro que el común de cuello blanco, que es peculiar de las ~~secciones~~ REGIONES situadas EN la base norte y oeste de las montañas.

En las colecciones hechas en las cumbres más altas encontré otras cinco aves, las que habían sido desconocidas hasta entonces y las cuales ~~he descrito.~~ DESCRIBO A CONTINUACION. YA HE DESCRITO Y ME REFIERO EN SEGUIDA. seguida.

La paloma Oreopeleia lawrencii carrikeri, una subespecie muy distincta, está aquí ~~en~~ completa MENTE AISLADA ~~isolacion~~ puesto que las ~~formas~~ VARIEDADES EJEMPLARES de su estirpe más cercanas se encuentran en Costa Rica y al oeste de Panamá. El colibrí, Pampa pampa excellens puede distinguirse de aquellos ~~en~~ DE otras ~~secciones~~ LUGARES por su tamaño que es decidadamente más grande puesto que en conjunto es casi la mitad más grande que el de la raza típica, Pampa ~~p.~~ pampa.

El tiránido Empidonax flavescens imperturbatus es otra especie cuyos ~~aliados~~ SEMEJANTES más cercanos se encuentran al sur, en este caso en las montañas de Chiapas. Puede distinguirse por su colorido más obscuro, como lo es también más obscuro el mniotíltido Myioborus miniatus molochinus. Este último tiene sus parientes cercanas en la Cordillera que pueda al norte y oeste. El más diferente de todos es el fringílido Atlapetes apertus, categóricamente distinto a la especie afín, Atlapetes brunneinucha, puesto que carece de la faja negra atravesándole el pecho.

De todas las avecillas locales ésta es la más ~~excepcional.~~ EXTRAORDINARIA

Anteriormente hicimos mención de las ~~periódicas~~ EXPORADICAS actividades volcánicas y parece notable que las aves de las elevaciones más altas ~~pudieran~~ HAYAN PODIDO sobrevivir bajo estas condiciones, pero que algunas sobreviven VIERON está claramente demostrado por las cinco ~~formas~~ AVES que ~~acabamos de mencionar las~~ QUE HEMOS MENCIONADO LAS que solamente son conocidas en los picos más altos de la Sierra. No cabe duda alguna que otras muchas ~~fueron del todo extinguidas~~ SE EXTINGUIERON COMPLETAMENTE durante los pasados siglos; pero, también estoy en la completa seguridad DE que todavia quedan varias otras por descubrir, especialmente en las cumbres más altas que ~~descansen~~ SE ENCUENTRAN al este del lago Catemaco ~~pues~~ que aún no han sido exploradas por LOS naturalistas ~~alguno~~.

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An Initial Series from Tres Zapotes, Vera Cruz, Mexico

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1940

AN INITIAL SERIES FROM TRES ZAPOTES, VERA CRUZ, MEXICO

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STELA "C", TRES ZAPOTES

FROM the latter part of December, 1938, until the 15th of April, 1939, the National Geographic Society-Smithsonian Institution Expedition conducted archeological explorations at Tres Zapotes in the canton of the Tuxtlas, Vera Cruz.[1]

During the course of this work, a number of large stone carvings were located including five stelae or portions of stelae.

The archeological zone of Tres Zapotes includes approximately 50 earth mounds stretching along the right bank of the Arroyo Hueyapan for a distance of two miles. Some of the mounds are on the bottom land adjacent to the arroyo and the remainder on the somewhat eroded terrace which overlooks this flat. The mounds separate themselves into four groups, each of which has a more or less rectangular plaza as a central feature. The easternmost of these clusters has been designated Group C. The principal mound of this group, C 1, is the second largest of the entire series. It is situated on the highest point of the terrace and gives a commanding view over the entire zone.

Directly in front of the south base of this mound was a small milpa, at the edge of which a few inches of a worked stone projected above the surface of the ground. Excavation revealed that this stone had been set up as a stela behind a roughly circular flat stone altar (figure 1). Since this was the third stela encountered, it was designated Stela "C". It consisted of a transverse fragment apparently intentionally broken from the middle of a good-sized monument which had been carved by an earlier people than those who re-used it. In its upright position behind the altar the fragment was at right angles to the position occupied by the original monument from which it had been broken. On the side facing the altar was a face in the form of a "tiger mask" panel carved in low relief (figure 3). Across the middle of the back was the greater portion of an Initial Series (figures 2, 4 and 5).

The stone had been broken off through the lower part of the terminal glyph and just above the katun coefficient, so that the baktun coefficient and the introducing glyph are missing. The numerals are arranged in a vertical column with the bars and dots placed horizontally. They are spartanlike in their simplicity with no decorative elements or "fillers" such as characterize most of the Initial Series inscriptions of the Maya area. The numerical coefficients are not accompanied by designating glyphs, their values being determined by position. At the upper righthand margin of the column is an elongated rectangular cartouche with a badly defaced incised design which may have represented a human figure in profile. The righthand margin of the cartouche is not defaced and is decorated with a comblike appendage.

At the base of the number column is a well-preserved glyph at the left of which, placed vertically, is the numeral 6. The column from top to bottom reads 16-6-16-18.

The bars and dots are clearly and sharply carved in low relief. The bars were formed by abrading their outlines to the desired depth and then grinding away the background immediately surrounding them to the depth of the grooves. The depressed area thus formed was then gradually tapered off to the level of the original surface of the stone, creating the impression at first glance that the numerals stand in relief above the whole background. The dots were treated in the same manner excepting that they were outlined by a hollow drill, probably of bamboo, and the edges of the cores forming the dots subsequently rounded off.

When the stela was first unearthed the grooves outlining the bars and dots were made conspicuous by a yellowish incrustation which faded after several weeks' ex-

[1] M. W. Stirling, "Discovering the New World's Oldest Dated Work of Man," NATIONAL GEOGRAPHIC MAGAZINE, August, 1939, Vol. LXXVI, No. 2.

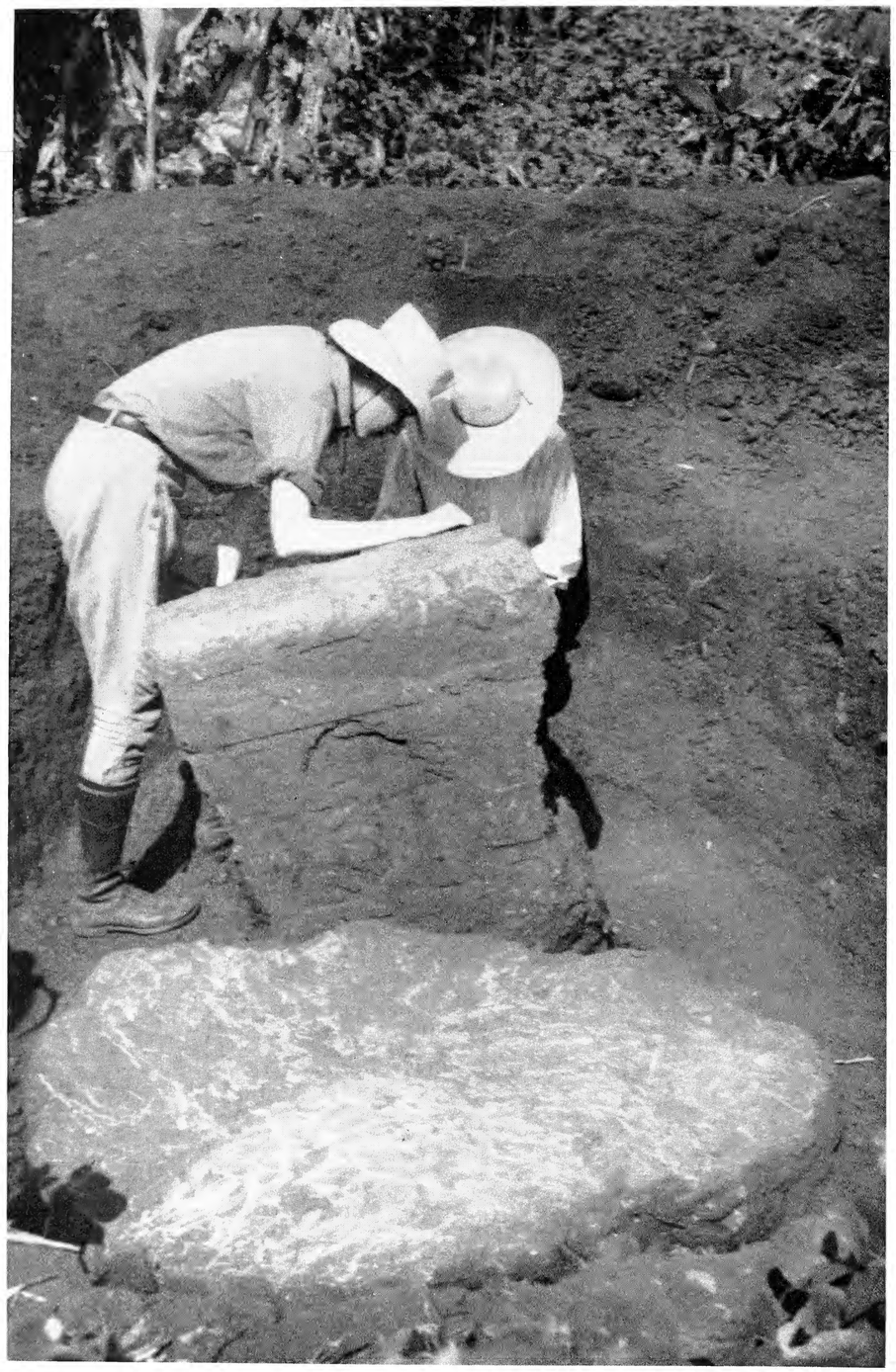

FIGURE 1—FRONT OF STELA "C" SHOWING "TIGER MASK" PANEL; ALTAR STONE IN FOREGROUND

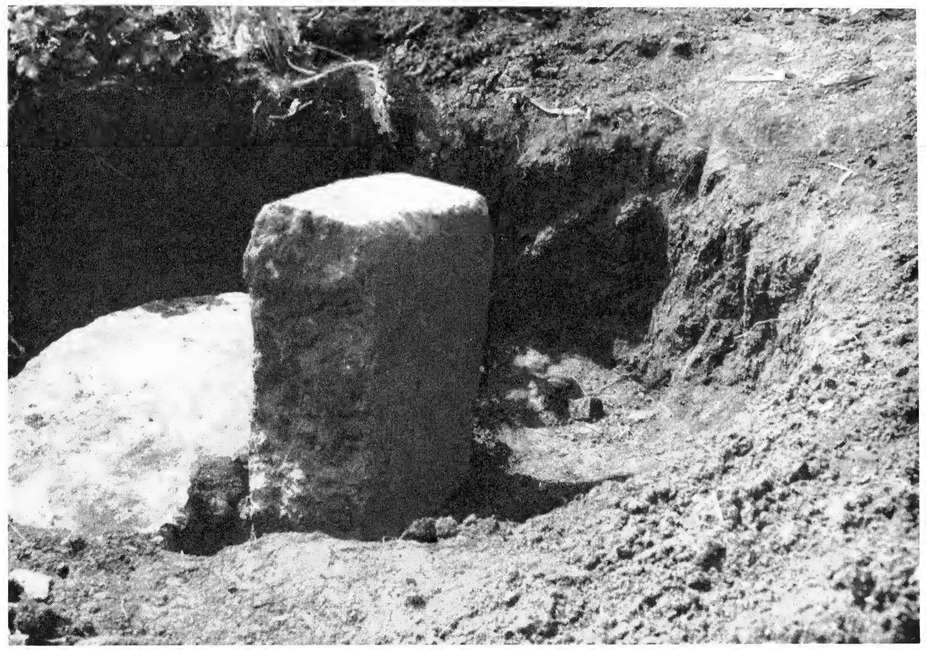

FIGURE 2—BACK OF STELA "C" SHOWING DOT AND BAR DATE; ALTAR STONE TO THE LEFT

posure, but which is still visible. The bars are 12 cm. in length and 1.5 cm. in width. The bar forming the numeral 6 of the tun coefficient is somewhat thicker than the others, being 2 cm. across. This was probably done intentionally for esthetic reasons, as it is the only single bar in the column and being wider tends to give better balance to the design. The dots are not separated from the bars by equal intervals, that of the tun coefficient being separated from its bar only by the width of the groove. The spaces separating the numerals, however, are identical and appear to have been measured. The circular grooves around the dots are likewise identical and were evidently made with the same tubular drill. The operator of the drill apparently bore down more heavily on the left side, as in almost every instance the grooves around the dots are deeper on this side and in some instances are not visible at all on the right side. The incised lines forming the designs of the two glyphs are rather lightly drawn and create a less rigid effect than the numerals.

Although the projecting parts of one or two of the dots have been knocked off, all of the numerical elements are clear and unmistakable at first glance excepting for the dot above the three bars of the katun coefficient. The middle part of the upper bar of the katun coefficient is broken, evidently by a heavy blow used in breaking the original monument, and the dot directly above is badly defaced, probably from the same cause. Careful study, however, removes all reasonable doubt of the existence of this dot. Almost all of the semi-circular lefthand side of the groove outlining the dot still remains (figure 6), and enough of the raised surface projects to cast a shadow when the light strikes it at an angle (figure 5). In addition to being exactly centered and properly spaced above the bar, the diameter of the portion of groove remaining is absolutely identical with the grooves surrounding the other dots. When freshly unearthed this groove was rendered perfectly conspicuous by the yellow incrustation previously mentioned. Furthermore, assuming that the baktun and katun coefficients were spaced the same as the remaining numerals, if no dot existed a corner of the baktun bar would appear in the undefaced area above the lefthand upper bar of the katun numeral.

Assuming then that the number 6 ad-

FIGURE 3—"MASK PANEL" FACE ON STELA "C"

jacent to the terminal glyph represents the coefficient of the day sign, the complete reading of the date would be (7)-16-6-16-18, or 6 Eznab 1 Uo, since only by supplying a baktun reading of 7 can the requirements of the day sign 6 be satisfied.

At this point the important question arises as to whether or not this represents a contemporary date. Several lines of approach to this problem are indicated. These approaches consist of an investigation of the physical conditions relating to the monument, an examination of other cultural material found at the site, a comparative analysis of the mask panel design and a comparative study of the Initial Series itself.

The fact that the stela and its altar were almost completely buried by natural processes does not necessarily indicate a great lapse of time since they were abandoned, as material could probably have washed down from the mound comparatively rapidly. The weathering to which the stela has been subjected is, however, significant. The stone is a tough, resistant piece of fine-grained olivine basalt. The face of the monument is considerably eroded, whereas the dated side is so little weathered as to still present an almost polished surface. Evidently the original stela had lain on its back for a long period before being re-used, as this weathering took place before the fragment was set up in the position where found. From the difference in weathering on the two sides of the stone it would appear that the interval between the time that the original monument fell and the time it was broken for re-use was greater than the period which has elapsed since.

There has not been time as yet to complete a final study of the very large collection of pottery, figurines and other artifacts from the Tres Zapotes site. Preliminary examination, however, reveals the abundant presence of materials relating to the early Middle American ceramic horizons. Among these, close analogies exist with Uaxactun I A, I B,[1] Gualupita I,[2] and Monte Alban I and II.[3]

[1] Uaxactun, Guatemala, Group E, O. G. Ricketson and E. B. Ricketson, Carnegie Institution of Washington, 1937.

[2] Excavations at Gualupita, Suzannah B. and George C. Vaillant, Anthropological Papers of the American Museum of Natural History, Vol. XXXV, Part I, New York, 1934.

[3] Exploraciones en Oaxaca, Alfonso Caso, Instituto Panamericano de Geografía e Historia, Publicación número 34, Mexico, 1938.

FIGURE 4—THE INITIAL SERIES INSCRIBED ON THE BACK OF STELA "C"

All of the periods above mentioned have been generally assigned by archeologists who worked the sites to an age approximating the date indicated on Stela "C". Because of its re-use, it is impossible as yet to definitely correlate Stela "C" with any ceramic horizon. Nevertheless the pottery secured from the earth which buried it is of an early type and, as already indicated, a considerable time period must have elapsed before the original monument was broken up.

The most recent material found at Tres Zapotes occurs with cremated "urn" burials found in the black surface soil which covers the main deposit of early cultural material. These latest burials, however, appear to be definitely pre-Columbian.

Of great importance in establishing the contemporaneous or non-contemporaneous nature of the date is the design carved in low relief on the face of the stela (figure 3). This seems to represent a stylized feline face which has in fact its closest analogies in the so-called "tiger mask" panels which are fairly common features of Maya art. Such mask panels, however, run through a considerable time period of the Maya Old Empire. Usually they appear as architectural features. Occasionally they also occur on stone monuments, as at La Honradez, Xmakabatun and Yaxchilan (figure 8, a, b), where they are associated with dates belonging to the last quarter of Baktun 9. An important early occurrence of the mask panel motive is found on the very early terraced pyramid E-VII sub at Uaxactun. The general resemblance of these to the mask panel on Stela "C" is rather striking. The similarity in conventionalizing the mouth parts, the elongated eyes, the broad nose with wide bridge extending between and above the eyes, are all features which bear out this comparison [1] (figures 7 and 8, d, e).

There are two other occurrences of "masks" somewhat similar to this at Tres Zapotes. One is on the upper part of Stela "A", the other is on the principal side of the carved stone box "B".

Belonging to the same art category as the Tuxtla statuette and the face on Stela "C" are the "baby face" or jaguar figures which occur in both stone and pottery and

[1] A detailed analysis of the E-VII sub masks and comparisons with similar mask panels from the Maya area are included by Ricketson in his Uaxactun report, Ricketson, 1937. See also Spinden, Maya Art.

FIGURE 5—ENLARGED VIEW OF INSCRIPTION ON STELA "C" SHOWING BY SHADOW AT THE TOP THE POSITION OF DEFACED DOT OF THE KATUN COEFFICIENT

FIGURE 6—DETAIL OF THE KATUN COEFFICIENT SHOWING REMAINING PORTION OF CIRCULAR GROOVE (ON THE LEFT) OUTLINING DEFACED DOT

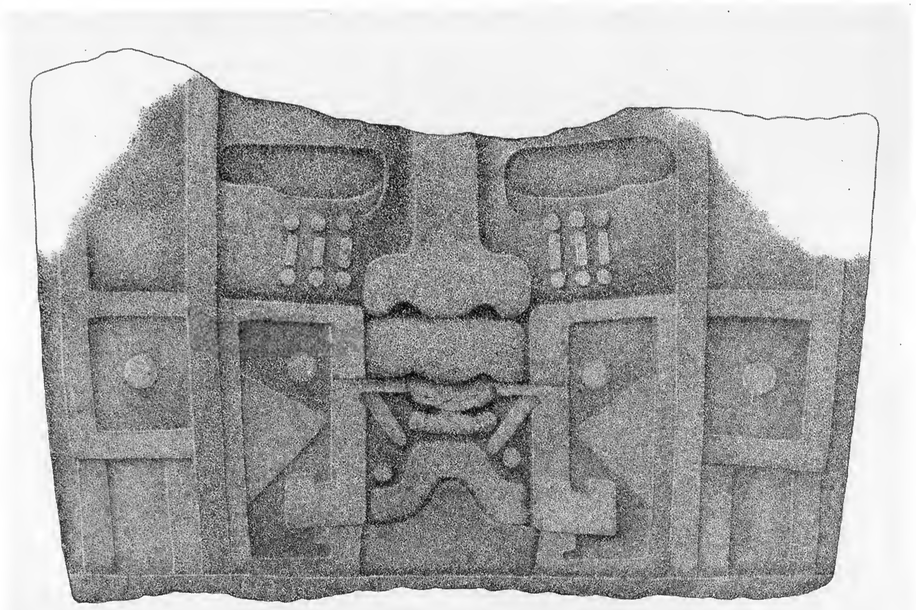

FIGURE 7—THE "MASK PANEL" FACE ON STELA "C", RESTORED

which have a fairly wide distribution in Middle America (figure 8, c). They are generally assigned by archeologists to a very early cultural horizon. Vaillant finds baby face figurines associated with his early Gualupita material in the Valley of Mexico with a postulated date which would represent a period not far removed from that given by the Initial Series of Stela "C".[1]

It is interesting to observe that the only large true "baby face" monument thus far found is on the near-by San Martin volcano,[2] and that the State of Vera Cruz is the principal center for these so-called "Olmec" figures.

It is well known that the Maya occasionally recorded non-contemporary dates which fall within a period that could refer to historic events.[3] Stela 25 at Naranjo with a contemporary date of 9-9-2-0-4 has recorded on it also the date 8-5-18-4-0.[4]

A cylindrical polychrome vase of relatively late type found at Uaxactun has painted on it an incorrectly recorded Initial Series which Morley believes should probably read 8-5-0-0-0.[5]

On page 70 of the Dresden Codex is an Initial Series reading 8-6-16-12-0.[6]

The non-contemporary date on Lintel 49 at Yaxchilan will be discussed elsewhere.

In his report on the Inscriptions of Peten, Dr. Morley has called attention to the fact that there are but four other Initial Series known in the entire body of Maya inscriptions which are in the style represented on Stela "C", that is, consisting of a vertical column of bar and dot numerals horizontally placed and without accompanying period glyphs. Including the subject of the present discussion and arranged chronologically according to the dates expressed, these are as follows:[7]

1. Stela "C", Tres Zapotes—7-16-6-16-18, 6 Eznab 1 Uo
2. Stela 1, El Baul—7-19-7-8-12, 12 Eb O Muan
3. Tuxtla Statuette—8-6-2-4-17, 8 Caban (O Kankin)

[1] Vaillant, 1934.
[2] Blom, 1925.
[3] For a discussion of the earliest Maya dates, see Morley, The Inscriptions of Peten, Volumes I and IV, Vol. I, p. 129, Vol. IV, p. 273.
[4] Morley, The Inscriptions of Peten, Vol. II, pp. 28-35, Plates 14 and 87.
[5] Morley, Peten, Vol. I, p. 231.
[6] Morley, Peten, Vol. II, p. 29.
[7] This is leaving out of consideration the Initial Series contained in the Dresden Codex.

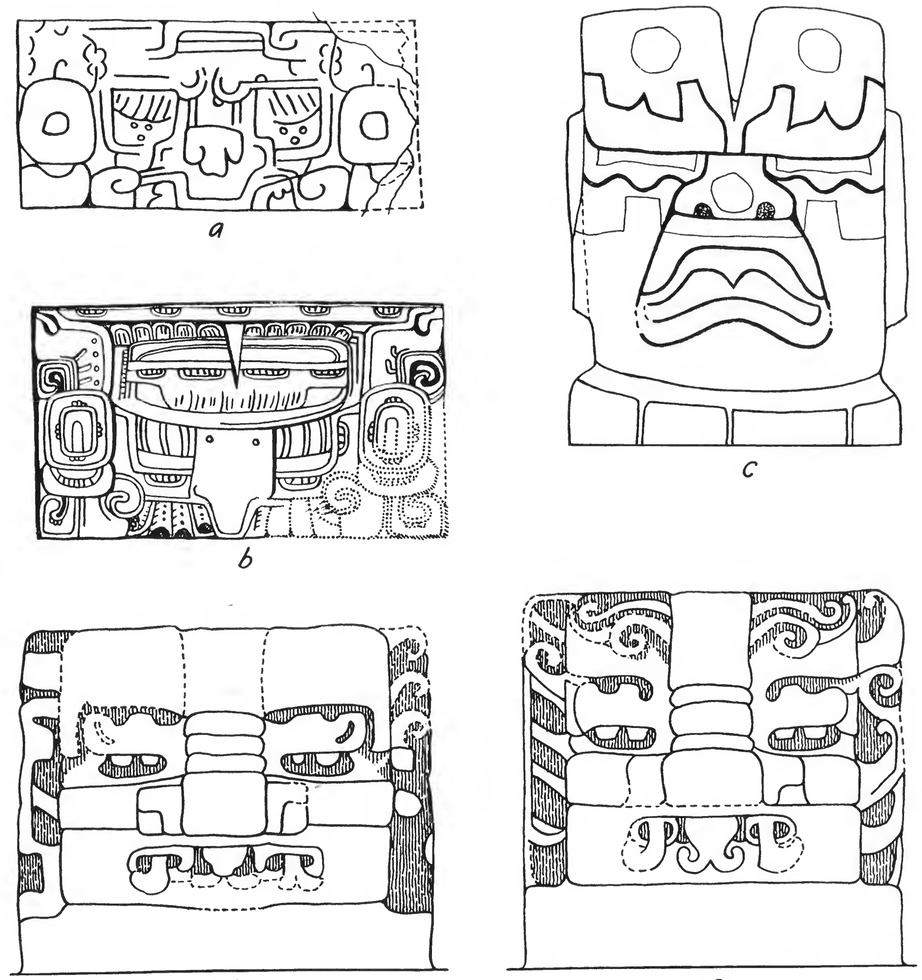

FIGURE 8—(a) MASK PANEL FROM THE BASE OF A STELA AT LA HONRADEZ (AFTER SPINDEN); (b) MASK PANEL FROM THE BASE OF A STELA AT YAXCHILAN (AFTER SPINDEN); (c) HEAD OF A JADEITE PLAQUE FROM SOUTHERN MEXICO (SPECIMEN IN U. S. NATIONAL MUSEUM); (d, e) STUCCO MASKS FROM PYRAMID E—VII SUB, UAXACTUN (AFTER RICKETSON)

4. Lintel 49, Yaxchilan—8-7-13-4-11, 8 Chuen 19 Tzec
5. Stela 1, Pestac—9-11-12-9-6, 7 Cimi (14 Cumhu)

Thus we find the interesting situation that, with the exceptions previously noted, of the 5 Initial Series of this type, 4 represent the earliest dates known in the entire body of Maya inscriptions.[1] The three earliest of these, all found west of the traditional Maya area, are the only Initial Series ever found outside the classic Maya region. If this fact does not have chronological significance it is at least a remarkable coincidence.

[1] We do not consider here a few dates which are so remote as to obviously refer to non-historic events.

THE PESTAC STELA

Of the five inscriptions listed above, the Baktun 9 date on Stela 1 at Pestac is the most divergent, since the uinal and kin periods do have their corresponding glyphs

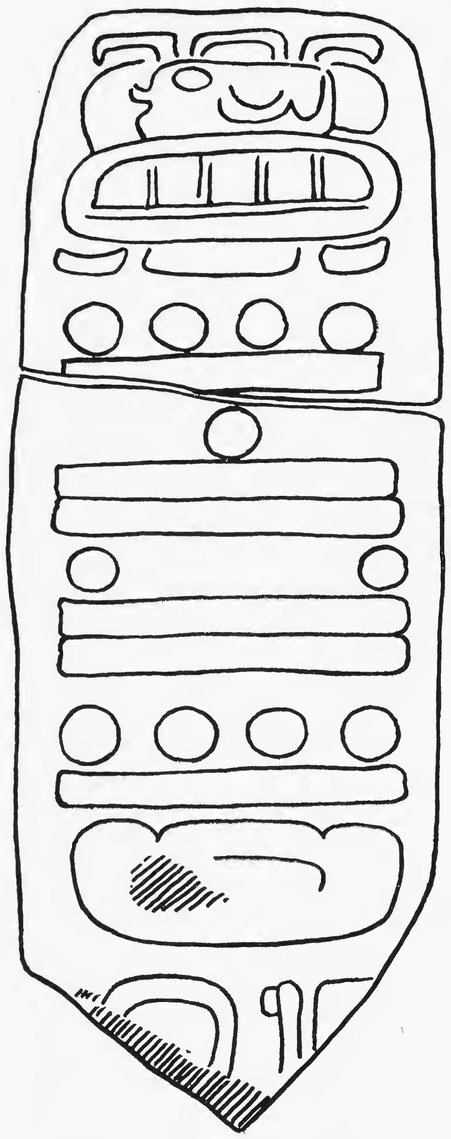

FIGURE 9—THE PESTAC STELA
(AFTER BLOM)

(figure 9). The fact that the idea of the accompanying period glyph is here present might be sufficient reason to exclude the Pestac stela from the category under discussion. Nevertheless it certainly resembles this group more in appearance than it does the orthodox Maya Initial Series. A feature it shares with Stela "C" is the fact that the terminal date is shown at the base of the numeral column with vertically placed numerical coefficients. It differs, however, in the fact that both day and month periods were apparently indicated and placed side by side. It should also be pointed out that Pestac lies in that margin of the recognized Maya area which is closest to the Tuxtla region.[1]

THE EL BAUL STELA

Previous to the discovery of the Tres Zapotes stela, but one other Initial Series recording a Baktun 7 date had been found. This is on Stela 1 at El Baul, Guatemala (figure 10, c). In 1928, Lehmann presented to the Congress of Americanists in New York the theory that this represented a contemporary date. This was disputed by Waterman,[2] who maintained on stylistic grounds that the carved figure which accompanies the Initial Series must have been made later than the period indicated. He does not disagree, however, with Lehmann's reading of the date. This reading is also confirmed by Morley,[3] who is inclined to accept Waterman's rejection of the date as contemporary. In objecting to Dr. Lehmann's conclusion, Waterman says: [4]

"The conclusions which Dr. Lehmann has jumped at seem at first glance to be quite reasonable. The monument with which we are dealing looks rather ancient, not to say aged. It was excavated out of the side of a pyramid which itself is low, overgrown with brush, and of an extremely archaic appearance. The stela itself, aside from the carvings on it, has a sort of an aura of antiquity about it. It is an excessively plain and thin slab of rock, with figures executed in a primitive manner. Moreover, one would expect to find, somewhere in the Guatemalan highlands, certain crude and simple stone pillars which would represent the beginnings of stela sculpture. . . . The location of the monument, its size, its relative crudeness, and its archaic air all fit very well together.

"I do not believe, however, that the stela is particularly old."

After explaining that the stone is badly weathered, he expresses the opinion that the weathering is not significant as pertaining to the age of the stela, since the stone is rather soft and he believes that

[1] Blom, 1929.
[2] Waterman, 1929.
[3] Morley, 1938.
[4] T. T. Waterman, Art and Archaeology, Vol. XXVIII, 1929, p. 184.

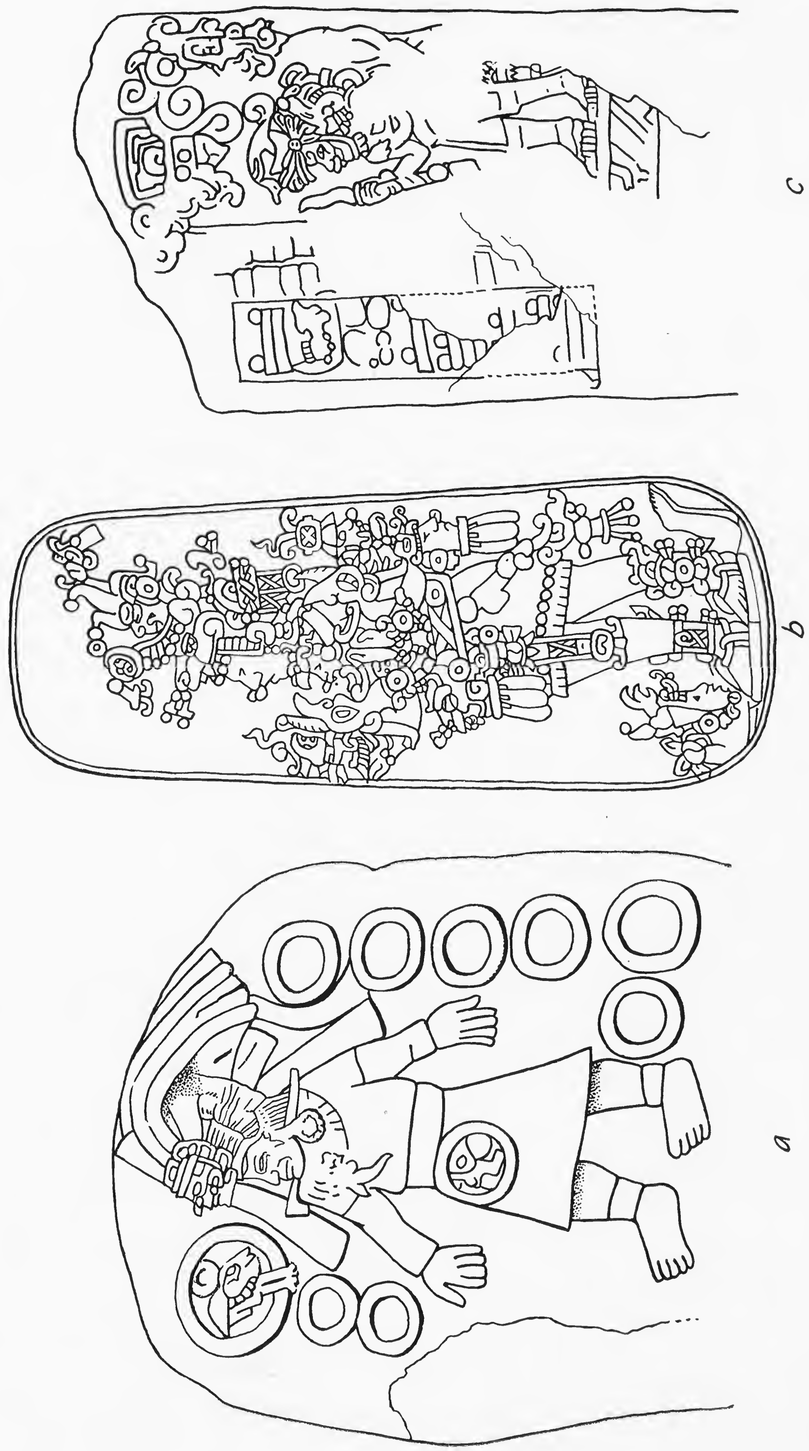

FIGURE 10—(a) CARVING ON AN ALTAR OF AZTEC ORIGIN NEAR EL BAUL (AFTER WATERMAN); (b) THE LEYDEN PLATE (AFTER MORLEY); (C) THE EL BAUL STELA (AFTER MORLEY AS COPIED FROM PHOTOGRAPH FROM WATERMAN)

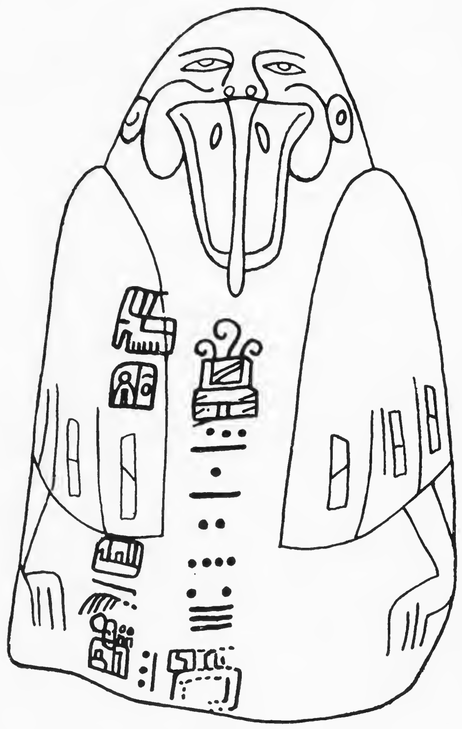

FIGURE 11—FRONT VIEW OF TUXTLA STATUETTE SHOWING INITIAL SERIES

"much of the weathering took place within the last few decades after the stone was exposed." Then he goes on to state that the general art style of the figure accompanying the inscription represents a much later development of art than the date indicated and that it is in fact Aztec in style rather than Maya, and that the human jawbone accompanying the numeral 12 is the Aztec day sign Malinalli. Furthermore, he points out that other monuments in the region are undoubtedly Aztec and illustrates a near-by altar with a standing human figure and the inscription "8 Deer" in Aztec characters. He also points out that the provenience of the stela is well outside the recognized Maya area and suggests that the date may represent an Aztec imitation of a Maya Initial Series.

Let us consider each of these points in turn.

Morley has pointed out that while the Aztec day sign Malinalli is indeed represented by a jawbone, so is the Maya sign for Eb; and that the Initial Series on the El Baul stela when calculated in fact arrives at the day 12 Eb, as recorded in the Initial Series by the Maya bar and dot system.

As to the art style of the human figure represented, we are dealing with a subject frequently difficult to demonstrate and a problem which is often a matter of individual impression. Certainly it is one on which differences of opinion may well be expected. To this observer the El Baul figure looks much more Maya than Nahua, and as good an example as any to demonstrate this contrast is the near-by figure illustrated by Waterman for comparison (figure 10, a). The Baul figure appears to me less rigid and in somewhat better perspective. The position of the figure is easier and more natural. I see nothing in its general treatment or art style incompatible with early Maya sculpture, either postulated or existing. For further comparison, I introduce the Baktun 8 figure on the Leyden plate (figure 10, b), the earliest known dated standing figure, which is certainly more elaborate than that on the Baul stela, and which to my eye the latter resembles much more closely than it does the Nahua figure.[1]

In attempting to compare art styles in cases of this sort, the writer found to his surprise that most writers simply made categorical statements to the effect that certain art styles were similar or different, and in most instances these statements have been accepted and carried on in the literature without benefit of detailed analysis. As this is the case with Waterman's generally accepted statement regarding the El Baul stela, I will take the time here to list a few specific points of comparison of the three figures illustrated in figure 10.

Both "b" and "c" make generous use of scrolls and curves, a common feature of Maya art. There are no scrolls on "a", and even the slight curves on the feather headdress are stiff and heavy.

The feet of "b" and "c" are similarly treated and shown in proper perspective in profile, the pointed toe of the rear foot touching the heel of that in advance.

The feet of "a" are shown all out of perspective, the 5 toes being delineated on each foot and the feet are well separated.

The knees of "b" and "c" are close together with the separation of the rather long slender legs taking place below the knees, one foot slightly in advance of the other.

[1] The Morleys have shown the close resemblance of the art style on the Leyden plate to the early figures on stelae at Tikal.

The knees of "a" are widely separated, the lower legs having short bulging calves.

In "b" and "c" the shoulders are in ¾ profile with the elbows flexed and the hands closed.

In "a" the shoulders are square to the front and the arms are straight and rigid, the fingers stiff and extended.

In "b" and "c" the details of ornament are done in somewhat impressionistic style and are elaborate in treatment.

In "a" the ornamentation is realistic in treatment and severely simple in style.

This list of comparisons could be extended much further, but it seems to me the above are sufficient to illustrate the point which has a bearing on the principal reason for the rejection of the El Baul date as being contemporary.

The undeniable presence of Nahua monuments in the vicinity of El Baul, in view of other considerations, does not seem to me necessarily to have any bearing on the antiquity of this particular monument, especially since none of them bear any resemblance to it.

The Nahuans were evidently totally unacquainted with the bar and dot system of numeration and it seems highly improbable that they would have imitated a Maya Initial Series as an art motive, let alone an Initial Series that is correctly calculated. The fact that the monument is found well outside the classical Maya area appears to me a point in favor of its age rather than the contrary. Tres Zapotes and San Andres Tuxtla are also well outside the generally recognized Maya region. In view of the comparatively recent advance that has taken place regarding knowledge of chronologic sequence in Middle American ceramics, an investigation of the mound where the stela was found and a comparison of its pottery with that of Santa Lucia Cosmuahualpa and other near-by Nahua mounds might do much to cast light on this point.[1]

[1] Throughout this article, for the sake of convenience, the writer has occasionally referred to the makers of the early Initial Series of Tres Zapotes, Tuxtla and El Baul as though they were Maya. They may or may not have been. The origin of the Maya constitutes a larger problem than intended by the scope of this paper.

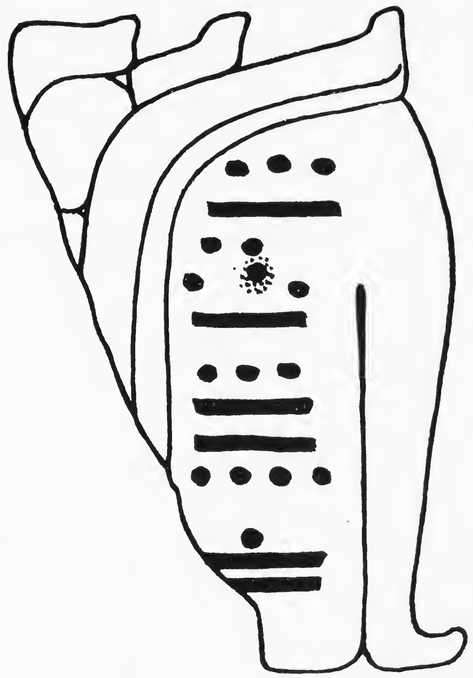

FIGURE 12—INITIAL SERIES FROM LINTEL 49, YAXCHILAN (AFTER MORLEY)

THE TUXTLA STATUETTE

The Tuxtla statuette was found about 15 miles from Tres Zapotes.[2] This geographic proximity, together with the close stylistic similarity of their Initial Series, makes it the most obvious object of comparison with Stela "C". Their dates are in fact recorded in such a parallel manner that they resemble each other more closely than either resembles any other Initial Series known. The Initial Series of the Tuxtla statuette has a simple trifoil introducing glyph followed by a vertical column of simple bar and dot numerals. At the base of the column is a terminal glyph evidently an unknown day sign form with its numerical coefficient placed vertically to the left. The month sign is suppressed (figure 11).

Stela "C" is broken off in such a manner that the introducing glyph, if one existed, is missing. The remaining portion of the Initial Series parallels exactly that of the Tuxtla statuette. Since Stela "C" is also broken off through the lower part of the

[2] Holmes, 1907.

terminal glyph, it is of course possible that another glyph followed. For many years the Initial Series on the Tuxtla statuette was accepted without much question as the earliest authenticated contemporary recorded American date. In recent years, however, doubts have been expressed by some investigators on the grounds that the style of the Initial Series resembles those in the Dresden Codex in that the bars and dots are arranged in a horizontal position and do not have their corresponding period glyphs. It has likewise been said that the cursive style of the glyphs is similar to that of very late glyphs from Yucatan, and that they might have been incised on the figurine long after the statuette itself was originally carved. Furthermore, being small, the object could have been easily transported far from its place of origin.

LINTEL 49, YAXCHILAN

The discovery of Stela "C" with its stylistically similar Initial Series would seem to authenticate the Tuxtla statuette and to furnish new evidence as to the probable contemporaneity of its date. The fact that Stela "C" was unquestionably carved near the spot where found likewise indicates the probable local origin of the Tuxtla statuette.

On the carved stone Lintel 49 at Yaxchilan [1] is a small Initial Series without accompanying period glyphs, introducing glyph or terminal date (figure 12). It is incised on the smooth area of one of the glyphs which make up the inscription covering the lintel. Morley dates this lintel as 9-5-0-0-0 but reads the Initial Series as 8-7-12-4-11. The presence of an Initial Series of this type on an early Baktun 9 carving at least demonstrates that this style of recording was not confined to the late period to which the existing codices belong. While it is pure speculation, this particular inscription may refer back to an archaic method of recording characteristic of the time indicated, as we might refer to an early date in Roman numerals.

In view of the foregoing, I believe that there is good evidence that the inscription on Stela "C" represents a contemporary Initial Series date. I do not, however, wish to create the impression that I consider it conclusive proof. Our knowledge concerning the important marginal area lying west of the Maya region is as yet woefully incomplete. I feel confident that when adequate researches have been conducted in this area all of the problems discussed above will be satisfactorily solved.

[1] Morley, Peten, Vol. II, p. 377, Plates 24 and 113.

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(has a good map)

#618

#520

#552

1197

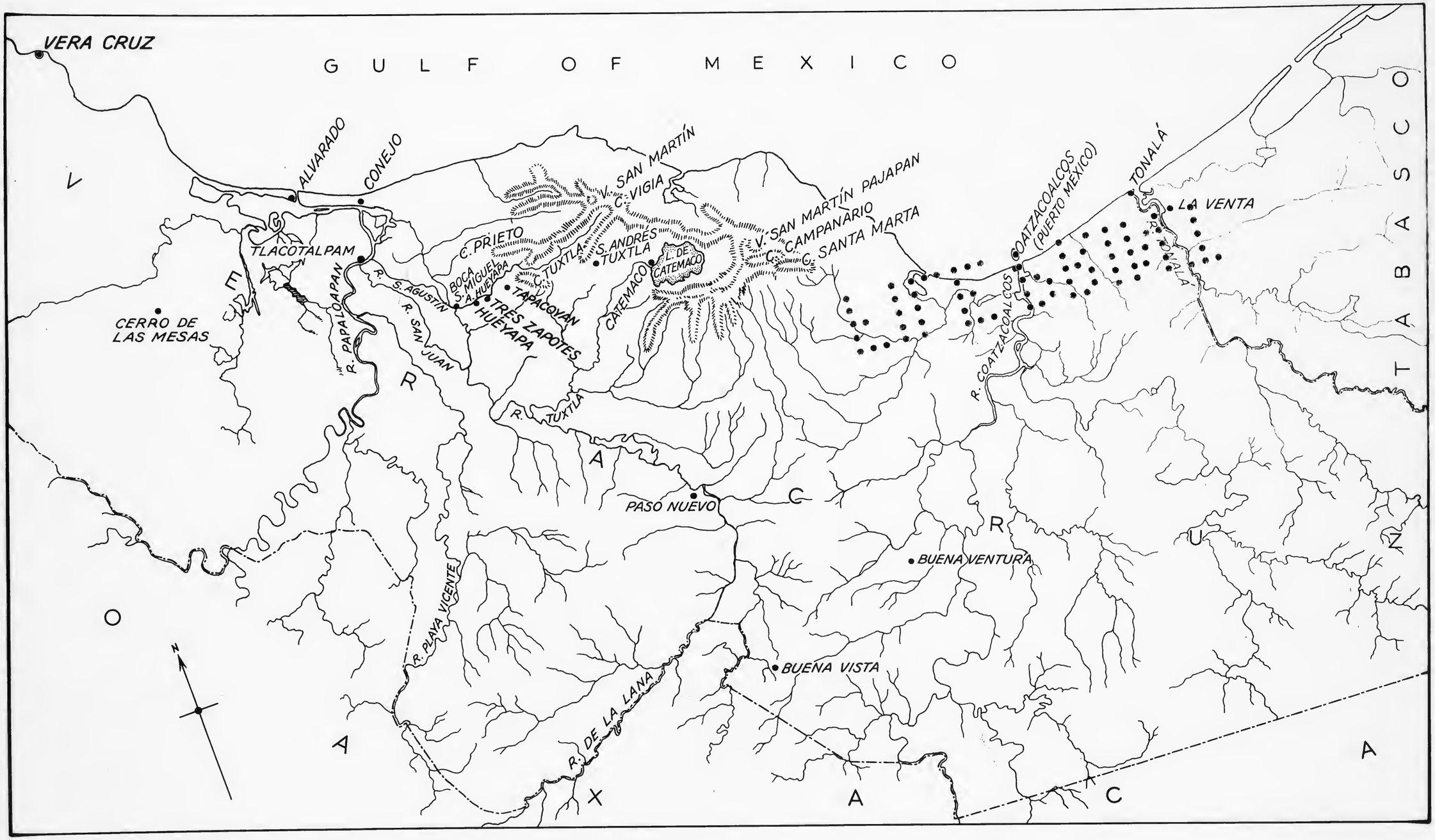
#582

#602

Correct spellings.

~~spellings~~

Hueyapa
Río San Agustín
Tepanaguasapan
Tlacotalpam
Mazatlán
El Conejo
Volcán San Martin
Rio
Cerro de Tuxtla
San Andrés
Yucatán
Rio Papaloapan.
Temascáltepec


VERA CRUZ
GULF OF MEXICO
ALVARADO
CONEJO
V. SAN MARTÍN
C. VIGIA
V. SAN MARTÍN PAJAPAN
C. CAMPANARIO
C. SANTA MARTA
C. PRIETO
TLACOTALPAM
S. ANDRÉS TUXTLA
L. DE CATEMACO
CATEMACO
BOCA S. MIGUEL
S. A. HUEYAPA
C. TUXTLA
TAPACOYAN
TRES ZAPOTES
HUEYAPA
R. S. AGUSTIN
R. SAN JUAN
R. PAPALOAPAN
CERRO DE LAS MESAS
R. TUXTLA
PASO NUEVO
R. COATZACOALCOS
COATZACOALCOS (PUERTO MEXICO)
TONALÁ
LA VENTA
R. TONALÁ
TABASCO
BUENA VENTURA
BUENA VISTA
R. PLAYA VICENTE
R. DE LA LANA
OAXACA

361-137

PLEASANT

Brief resume of Expedition to State of Vera Cruz, Mexico,

By M.A.Carriker, Jr., Dec.29 to May 28, 1940.

Sailed from New York on December 29th., 1939, at 6 P.M., on S.S.Monterey, and arrived at Veracruz about noon on January 4th., after an uneventful voyage.

I was accompanied by Mr.R.H.Stewart, photographer of the National Geographic Society. There was no trouble or delay in the Customs, either with the equipment of Mr.Stewart or my own, with the exception of the fire-arms and ammunition, which ~~was~~ were held up by the Customs until an order from the Minister of Defense, in Mexico City, could be secured for their release.

Through the efforts of the American Consul, in conjunction with the Embassy in Mexico City, this was finally secured, but not until a full week had elapsed, so that I was eventually enabled to leave Veracruz for Tlacotalpam on on the morning of January 13th.

Señor Gutierrez had been advised of our coming, by telegraph, and had been able to arrange for the launch to leave Tlacotalpam for the Boca de San Miguel on the following day, and we arrived in the Campamento de la Cabeza Colosal, near Tres Zapotes about 7 P.M. the same evening, Jan.14th.

A "norte" had been howling all day, which turned to rain just as we left the village, so that the shelter of the camp, inadequate as it was, proved to be very welcome. Mr.and Mrs Stirling and Dr.Drucker had arrived a week earlier, and made is very welcome.

When I had called on Gen.Mange in Veracruz, he had offered me a military escort from Tlacotalpam to the camp, and while I saw no reason why it should be necessary, nevertheless I accpeted with thanks, and a detail of five soldiers, under the command of a Lieutenant, was sent to Tlacotalpam to await our arrival. Upon my arrival there Señor Gutierrez informed me that Mr.Stirling had been having labor troubles at the camp, and strongly

advised taking the soldiers to the camp,in the hope that it might have a salutory effect on the labor agitators.

The first two days in camp were largely spent in unpacking and getting organized for the work ahead,and in assisting Mr.Stirling in arranging his troubles with the laborers,by acting as interpreter during the long-drawn negotiations between Mr.Stirling,the Lieutenant and the officials of the village. Due largely to the firm stand taken by the Lieutenant,and the diplomatic manner in which the matter was handled by Mr.Stirling and the Lieutenant,everything was very satisfactorily settled,and there was never afterwards the slightest friction with the people of the village of Tres Zapotes.

Collecting was actually started on January 17th,but the weather continued very bad,one "norte" after another,with more or less rain every day,and with temperatures ranging between 50 and 60 F. This type of weather lasted until January 30,when we had our first fairly warm,sunny day.

In spite of the weather handicap,shooting was carried on almost daily and 116 specimens were taken up to the 30th.,when I packed up a small outfit and returned to Tlacotalpam on the 31st.

It had not been my intention to work in Tlacotalpam until later,but since the Stirlings and Stewart were going down at this time for the big "fiesta" to be held there,in order to get moving pictures in color of the activities,I was persuaded to accompany them,in order to help Stewart with his photography,by doing his talking for him.

Due to the general confusion resulting from the prolonged "fiesta", it was not possible to begin collectin until February 5th,after which the work was continued without interruption until the 20th.

During this time I made two trips down to the coast in order to work the low range of old sand-hills which stretch for many miles along

this portion of the sea-coast. A small launch was chartered for these trips, setting out before daylight and going to a place called El Conejo, about half way between Tlacotalpam and Alvarado, and a trifle more than an hour's run from the upper town.

A good bag of birds was secured on both trips, which were skinned the same evening and the following day, the coolness of the weather at this time making such an arrangement possible. Quite a number of species were taken in this region which were not seen elsewhere. A total of 129 skins ~~was~~ were taken between Tlacotálpam and Conéjo.

Meanwhile the weather had abruptly changed for the better, no rain falling during the entire time spent in Tlacotálpam, in fact, with the exception of one light shower late in February, and another on April 10th., not rain at all fell in the whole region until May 7th, when the rainy seasons started (exceptionately early) with a terrific thunder storm and downpour of rain.

I returned to the Tres Zapotes camp on February 21st, where Dr. Drucker had been left in charge of the excavations while Mr. and Mrs Stirling and Stewart went to Puerto Mexico to study and photograph extensive Archaeological remains up the river from that port, leaving Tlacotálpam as soon as the "fiesta" was over.

Work was resumed in the Camp on Feb. 22nd and continued until the 28th. when I was forced to make a hurried trip to Tlacotalpam in order to have a tooth extracted which had been making life insupportable for several days.

Work was again started in Tres Zapotes on March 3rd, and was continued without interruption until April 13th. when Mr. and Mrs Stirling left for Mexico City, leaving Dr. Drucker at the camp to finish up some odds and ends of work.

Before going down to Tlacotálpam I had been training Modesta Palma

in the art of shooting birds,at least showing him how I did it,and after returning to camp I started him out by himself to collect,while I likewise went alone.

This arrangement worked out more satisfactorily than I would have dared to hope. Modésto proved to be an exceptinal hunter,with a keen eye and wonderful memory for identifying birds in the field which we had not collected,or that we particularly wanted. I was thus enabled to spend less time in the field myself,and more time in skinning,so that the collection now increased very rapidly.

On March 11th.we made our first trip to the Cerro de Tuxtla. We rode to Tapacóyan,a little village huddled at the west flank of the mountain, and there secured a guide for the ascent,reaching the lower of the two peaks which form the summit,and getting back to camp at about 6 P.M. Since the birds taken had scarcely been exposed to the sun,and the nights were still cool,they kept very well until they could be skinned on the following day.

Eight trips in all were made from Camp to the mountain,between March 11 and April 3rd,the results of which were amazingly successful. 496 skins were collected during this period between Feb.22 and April 12.

On April 13 I packed a light outfit which could be carried on one mule,and the following day(April 14) Modésto and I left Tres Zapotes for San Andrés,having as our ultimate objective,the Volcano of San Martín,lying northeast of that town,where I hoped to be able to spend a week or ten days and get some idea,at least of its bird fauna.

We reached San Andrés late in the afternoon without incident,and that night I was able to contact a man there who had been recommended to me by Adolfo Gutierrez. This chap claimed to know the trail well to the summit of the volcano,and promised to start with us early the next morning. He told me that there was a house somewhere up on the slopes

of the mountain where he thought we could arrange to stay, so we took our pack-mule with us, with the idea of leaving our pack at the house, while we continued on to the summit, in order to get some idea what the conditions were on the mountain itself.

I found this house to be at 2150 feet altitude, just at the lower edge of the vast forest which clothes the greater portion of the volcano. The pack was left there, after arrangements had been made with the owner to furnish us with food and lodging, and we continued upward, but our guide proved to be no guide at all, and the day was practically lost, wandering up and down old logging trails in a vain endeavor to locate the trail which led to the summit. Finally, by the help of a native, accidently encountered in the forest, we were at length set on the right trail, and rode as far as it is possible to go with mules (3550 feet). It was then 4 P.M. and we were forced to return to the house, while our sadly deflated guide went back to San Andrés, after I had finally convinced him that he was utterly useless to me in any capacity whatever.

The next seven days were spent in collecting on the south slopes of the volcano, in a magnificent primeval forest, while three ascents were made to the summit ~~of the volcano~~, the highest point of which is approximately 5550 feet.

The work was seriously handicapped by two severe and totally unexpected "nortes", both bringing rain and heavy mist above 3000 feet, but in spite of all this, 72 specimens were secured, including 12 species not taken elsewhere, 8 of which were resident species, belonging to the lower subtropical zone.

We returned to Tres Zapotes on Wednesday, April 24th, and that night I continued on to the Boca de San Miguel to sleep, in order to catch the launch for Tlacotalpam early the next morning. I had resolved to go at once to Mexico City in order to arrange for the exportation of my

collection of birds, then return to Tres Zapotes and finish the work on the Cerro de Tuxtla.

I left Tlacotalpam at 3 A.M. on the 26th, reaching Alvarado in time to catch the 6 A.M. Diesel car into Veracruz, where I secured a bus for Mexico City leaving at 11 A.M., and reached the capital at 7.30 the same evening.

I called at the Embassey on Saturday morning and placed the matter in their hands, as I had been instructed to do. Later I went to the office of the Departamento Forestál y Cáza, to make a courtesy call on the new Director, Señor Salvadór Guerréro, but the gentleman was xx indisposed and could not be seen.

On Monday I called again at 11 A.M..found the Direcor there and had a very pleasant visit with him, after which he voluntarily gave me the necessary permit to take out the collection intact. He then took me to the National Museum at Chapultepec, where I met the Director, and was shown over the whole place. Later Señor Guerrero took me in his car for a drive through the outskirts of the city to show me the work of reforestation which has been undertaken there, and which is in splendid condition. On the whole, I was shown the utmost courtesy, and I am sure that any further relations which the Smithsonian Institution may have with Señor Guerrero will be wholly satisfactory.

I returned to the American Embassey and left a copy of the permit there and explained how it had been secured, so that they might not think that I had voluntarily "gone over their heads" and asked for it personally after having left the matter in their hands.

I left Mexico City that night (April 29th.) by train, and reached Tres Zapotes on the afternoon of May 1st, having made the trip up from Tlacotalpam on mule-back, since there was no launch available for several days.

Two days were spent in Tres Zapotes, where four more species were

added to the collection,after which I went to Tapacoyan on Saturday,May 4th,still accompanied by Modésto Palma.

Work was continued on the mountain,especially on the lower slopes and the contiguous lowlands,but with rather poor success. The weather was very hot and dry,while the forest on the mountain now fairly swarmed with myriads of huge cidadas,whose incessant din nearly drove one frantic.

Then,on May 7th. the heat wave was broken by a terrific thunder storm, beginning at 3 A.M.,which further complicated matters by thoroughly wetting most of my possessions(except the birds),and left the earthen floor of the shack a mass of sticky mud.

Eventually I considered discretion the better part of valor,and returned to Tres Zapotes on Sunday,the 12th,packed up and caught the launch the following day for Tlacotalpam,in order to finish up the work there before sailing on the 22nd.

I made one trip to the Sand Dunes of the coast but secured nothing new,although a Nighthawk was seen,but escaped wounded. The rains continued to be a real nuisance,since they persisted in coming early in the morning,usually between 6 and 10 A.M.,so that on the whole not a great deal was accomplished there the first three days. On the fourth day, May 17th.,I was very suddendly seized with a severe case of amoebic dysintery,while out shooting,and after I had secured a fine bag of birds,including a new Gull,a new Tern and the big Aramides,which I had been unable to secure at Tres Zapotes. Unfortunately the attack was so severe until I got it under control,that most of the birds shot that day were lost,being too far gone the next morning to skin,although I did manage to save the Gull and several small birds.

I did not deem it advisable to venture out in the hot sun on Sunday,and after that I was fully occupied in sorting and packing my specimens and equipment,until Tuesday morning,May 21st.,when I left for Alvarado and Veracruz,and embarked for New York on the evening of

May 22nd.and arrived in New York on the morning of the 28th.,without further incident of note.

I am glad to report that no loss of supplies or equipment was suffered on the entire trip,nor were any specimens lost or damaged, up to the time of embarking them on board the ship.

No time was lost through sickness or physical disability,except the three days spent in going to Tlacotalpam to have my tooth extracted, and the two days at Tlacotalpam due to the attack of dysintery,from which I recovered rapidly,and with no recurrence.

An entire week was lost in Veracruz in January while waiting for the arrival of the permit to take in the guns and ammunition. A week was spent on the trip to Mexico City,and for days(including Sunday) were lost during the "fiesta" at Tlacotalpam in February.

The total results of the expedition are as follows:

Number of specimens collected	933
Number of species(approximately)	240
Species added to the 1939 list by Dr.Wetmore.....	106 (approx.)
Number of species taken by Dr.Wetmore in 1939 not represented in collection (approx.),.....	12

93 vials of Mallophaga,from 82 species of birds.

M.A.Carriker Jr.

M.A.Carriker,Jr.

COPY

NOTES FROM TLACOTALPAM, VERA CRUZ, MEXICO.

April 21-22 and May 17-29, 1894.

E. W. Nelson.

GENERAL NOTES.

This locality is about 20 miles south of Alvarado on the Rio Cosamoloapam, a few miles above the Bay of Alvarado. The situation is low, being on a broad alluvial plain, over much of which the water extends during the summer rains. The river is affected by the tides from the Gulf for some distance above the town. The level plain is unbroken for miles, and is dotted with ponds and marshy places.

VEGETATION.

There are many open grassy areas or llanos, usually containing ponds or marshy spots where there are many plants peculiar to such localities. Along the banks of the small streams also grow many such plants. Most of the plain, however, is overgrown with scrubby trees and thickets of low brush. The trees rarely exceed 30 feet in height and are scattered among brushy growths of from 6 to 10 feet. The overflow of brackish water here during summer probably prevents the trees common higher up the river from growing here. Palms are also very scarce in the lowlands. The plants sent in from here, numbering from 488-530, give an idea of the flowering species here at this season. Sugar cane is the main crop grown here.

BIRD NOTES - - Tlacotalpam, Vera Cruz, Mexico.

April 21-22 and May 17-29, 1894.

E. W. Nelson.

Anhinga anhinga

Phalacrocorax mexicanus

Pelecanus erythrorhynchus

Pelecanus fuscus

Fregata aquila

Caucroma zeledoni

Ajaja ajaja

Ardea herodias

Ardea egretta

Ardea canidissima

Ardea rufescens

Ardea virescens

Aramus giganteus

Oedicnemus bistriatus

Tringa maculata

Jacana gymostoma

Aramides albiventris

Ortalis vetula

Columba flavirostris

Columbigallina rufipennis

Cathartes aura

Catharista atrata

Urubitinga ridgwayi

Polyborus cheriway

Pandion h. carolinensis

Crotophaga sulcirostris

Diplopterus naevius excellens

Trogon melanocephala

Conurus aztec

Chrysotis autumnalis

Ceryle torquata

Ceryle amazona

Ceryle americana septentrionalis

Dryobates scalaris parvus

Melanerpes santa cruzi

Nyctidromus albicollis

Amazilia cerviniventris

Lampornis prevostii

Thamnophilus d. mexicanus

Platypsaris a. sumichrasti

Milvulus tyrannis

Pitangus derbianus

Myiozetetes texensis

Myiarchus lawrencei

Empidonax flaviventris

Pyrocephalus r. mexicanus

Todirostrum cinereum

Saltator grandis

Bird Notes - Tlacotalpam, Vera Cruz, Mexico.
April 21-22 and May 17-29, 1894. (Cont'd.)

Tanagra cana

Quiscalus macrourus

Agelaius phoeniceus richmondi

Dives dives

Callothrus robustus

Icterus mosomelas

Progne chalybea

Vireo flavoviridis

Ornithion imberbe

Synallaxis erythrothorax

Polioptila c. mexicana

Thryothorus maculeipectus

NOTES FROM CATEMACO, VERA CRUZ, MEXICO, APRIL 26 - May 5, 1894.

E. W. Nelson.

Itinerary.

The present locality lies about 60 miles in a direct line southeast of Tlacotalpam, by the route of travel it is at least 100 miles. A small steamer takes one through various small streams to a station called Alonzo Lazaro, from which point one must engage horses and proceed overland about 35 miles to the west shore of Lake Catemaco where this place is located. We remained at this place ten days working the country for some miles about the west shore of the Lake, and a short visit was also made to the east shore.

General Notes.

According to my Aneroid the altitude of Lake Catemaco is about 1100 feet above sea level. From Tlacotalpan the route of the steamer is among narrow, sluggish streams that wind about across the low flat country which is overflowed by several feet of water during the height of each rainy season. At Alonzo Lazaro the country commences to rise toward the east sloping gradually toward the range of low mountains which borders the coast of the Gulf of Mexico in this district. This range is a spur from the main Cordillera of the east. It is given off on the west side of the Isthmus of Tehuantepec near the border of the State of Oaxaca and extends northeasterly until it touches the coast, when it turns northerly and westerly and parallels the coast until the range terminates at the Volcano of Tuxtla, or San Martin,

as it is called locally. The highest point of this range lies some miles southeast of Lake Catemaco, with the next highest point at the summit of the volcano. So far as noted this range appears to be wholly volcanic from about Lake Catemaco to the Volcano, including all the foothills.

From Alonzo Lazaro, the route leads northeasterly for some miles across a gently rising plain until the low foothills are reached. Thence the road winds among undulating hills to the town of Santiago Tuxtla, or Tuxtla, as it is called sometimes. This place lies at an altitude of 750 feet among the outlying foothills of the range already mentioned. Seven miles beyond after passing a broad series of ridges we reach San Andres Tuxtla, which is the principal town of this district, and is also among the foothills at an altitude of about 1000 feet above sea level. Continuing seven miles still farther across a series of beautiful valleys noted for producing the finest tobacco grown in Mexico, we suddenly come out in full view of Lake Catemaco with the little town of the same name strung along its western shore at an altitude of a little over 1100 feet. Throughout the journey after reaching the foothills streams of beautifully clear water are crossed at frequent intervals and the lake lies a broad shining expanse in the midst of the hills. The eastern shore is bordered by sharply rising hills skirting the main range, all heavily wooded, and the western side is a sloping plain dotted with curiously rounded volcanic hills, some of them evidently ancient craters. The lake is about 8 miles in a S. W. by N. E. direction and about 3 miles broad but is rather irregular in outline. It is only from 40 to 45 feet deep in the deepest places. The outlet is through the S. W. by a small river that descends toward the low country by a series of fine waterfalls.

Vegetation.

The main crop about Catemaco is tobacco. Next comes corn, which in conjunction with cattle raising form the main industries of the people here. A few bananas and cocoanuts are grown and a coffee plantation on the east shore of the lake shows that this plant could be cultivated here to advantage. The locality is somewhat similar to that at Otattitlan in being situated in a border line between the Arid and Humid Tropical Areas. The low hills, plains and valleys about the western side of the Lake are dry, covered with rather small and sparse arboreal vegetation and some open grassy llanos are encountered. Elsewhere the heavy humid tropical forest prevails, descending to the water's edge along the eastern shore of the lake. Mahogany, "Cedar", and various humid tropical forest trees go to make up the woods of these hills while the plants sent in from this locality numbering from 401 - 441 except where otherwise specified in the catalogue belong to this zone. The arid tropical species - or semi-arid tropical from the dry plain and hills about the western shore of the lake are those numbered from 382 to 399. The locality is very rich botanically and the plants sent in are merely representative of the commonest species flowering at the time of my visit.

Bird Notes - Catemaco, Vera Cruz, Mexico, April 26 - May 5, 1894.

Colymbus dominicus brachyptera
Graculus mexicanus
Fregata aquila
Ardea egretta
Ardea candidissima
Ardea t. ruficollis
Ardea virescens
Cochlearius zeledoni
Fulica americana
Gallinula galeata
Bartramia longicauda
Actitis macularia
Pelecanus fuscus

Jacana gymnostoma

Colinus godmani

Crax globicera

Penelope purpurascens

Ortalis vetula

Crypturus saltari

Crypturus boncardi

Tinamus robustus

Odontophorus guttatus

Aramides albiventris

Columba flavirostris

Engyptila plumbeiceps

Zenaidura macroura

Melopelia leucoptera

Scardafella inca

Columbigallina rufipennis

Cathartes aura

Catharista atrata

Rostrhamus sociabilis

Urubitinga ridgwayi

Leucopternis giesbrechti

Rupornis grisiecauda

Falco sparverius deserticolus

Pandion h. carolinensis

Thrasaetus harpyia

Glaucidium ferrugineum

Megascops guatemalinois

Conurus aztec

Diplopterus n. excellens

Piaya c. mehleri

Crotophaga sulcirostris

Momotus lessoni goldmani

Trogon melanocephala

Ceryle torquata

Ceryle amazona

Ceryle cabinisii

Ceophleus scapularis leucorhamphus

Melanerpes dubius verae-crucis

Nyctidromus albicollis

Chaetura gaumeri

Lampornis prevosti

Floricola pallidiceps

Trochilus colùbris

Amazilia cerviniventris

Chlorostilbon canivetii

Pitangus derbianus

Myiozetetes texensis

Myiodynastes lutiventris

Psilorhinus morio

Psilorhinus mexicanus

Xanthoura luxuosa

Icterus spurius

Icterus gularis tamaulipensis

Callothrus robustus

Quiscalus macrourus

Dives dives

Cardinalis v. littoralis

Saltator grandis

Saltator atriceps

Arremonops r. crassirostris

Melospiza lincolni

Sporophila moreletti

Volalinia splendens

Euetheia olivacea pusilla

Tanagra abbas

Aimophila rufescens

Phlogothraupis sanguinolenta

Tachycineta albilinea

Stelgidopteryx serripennis

Chelidon erythrogaster

Progne chalybea

Vireo flavoviridis

Dendroica aestiva

Henicorhina prostheleuca

Heleodytes zonatus

Merula grayi

NOTES ON THE VOLCANO OF TUXTLA (or San Martin) VERA CRUZ, Mexico.

May 11-13, 1894.

E. W. Nelson.

GENERAL NOTES

This mountain is a low peak, having an altitude of about 5650 feet according to my aneroid. It is situated close to the coast of the Gulf of Mexico and forms the northern extremity of the low range of mountains which borders the Gulf from the Isthmus of Tehuantepec nearly to the Bay of Alvarado. The volcano is at the end of a high, sharp ridge of lava and volcanic ashes which extend away to the southeast. The volcano is now quite extinct and is completely covered with vegetation. There are two craters partly merged into one another and both easily accessible. There are recorded two eruptions here. One in 1664 and another in 1793. Our route to ascend this peak was northeasterly from San Andres Tuxtla. Between San Andreas and the summit of the Mountain there is no water available, so that the entire supply was carried on mens' backs. We ascended a sharp slope until we reached an altitude of about 1000 feet above the town and then advanced over a sloping plain for about five miles to the base of the ridge extending southeast from the peak. Ascending this we camped on the ridge and sent back our horses. From this point the local authorities had caused a trail to be cut through the dense jungle to the top of the mountain, about 6 miles away, in order to facilitate my ascent. The road led along a sharp ridge, through dense thickets to the summit. Our return was directly down the southwestern side of the volcano in a newline, which I caused my men to take. The sloping plain ends at the base of the main

slope at about 3500 feet above sea level. The volcano and all the surrounding country for miles is covered by heavy layers of volcanic sand & ashes, which take up all surface water and no springs occur anywhere around until one gets beyond the border of the plain which skirts the volcano and the high ridge adjoining. This mountain has a very rainy climate.

VEGETATION.

Nothing is cultivated about the volcano and all the flanks of the main mountain and adjacent ridges are covered with virgin forest, containing many very fine trees. Among the trees are cedars, wild figs and many that I do not know. From the sloping plain up to 4800 feet the vegetation changed but little. The heavy forest full of small palms, cane, vines and other undergrowth continued nearly as far as 3000 feet. From 4800 to 5000 feet the trees became rapidly smaller and from 5000 to 5650 ft. the growth changed its character; trees gave way to thickets of bushes, patches of orchids and mosses were common, and at the extreme summit the bushes were only six or eight feet high, and many small open areas were seen. The plants taken on this trip will give a general idea of the vegetation encountered. They are numbered 458 to 482 inclusive, and the altitudes of each are given in the catalogues of plants. From the rank growth of vegetation and abundance of hanging and other mosses on trees between 4000 and 5000 feet it was evident that the climate here is very cool and moist.

FAUNAL NOTES.

Owing to the recent formation of this mountain and its isolation from the main range of the cardillera the mammals and birds here are mainly those of the adjacent lower country. As a result the cool, moist climate

deters many from entering these forests and the fauna appears to be very poor. The local hunters agree also in claiming that there is but little game here. The large Sitomys 6254 with the Sorex 6243, are very common, and seem to be the only small mammals. Deer, Peccaris and Tigers (F. onca) roam about the lower slopes, sometimes ranging to the summit. Merula grayi, Chlorospingus opthalmicus, Myadestes 2051, Chaetura gaumeri and Crax globicera were the only birds seen above 4000 ft. In places we traveled for miles through the dense forest of the steep slopes without seeing a single bird or mammal.

BIRD NOTES - VOLCANO OF TUXTLA, Vera Cruz, Mexico.
May 11-13, 1894.

Crax globicera

Chaetura gaumeri

Chlorospingus opthalmicus

Myadestes unicolor

Merula grayi

COPY

NOTES FROM SANTIAGO TUXTLA, VERA CRUZ, MEXICO, MAY 14-16, 1894.

E. W. Nelson.

GENERAL NOTES

This place is situated about 7 miles from San Andres Tuxtla, on the road to Alonzo Lazaro at an altitude of about 750 feet above the sea level. It is known locally as Santiago Tuxtla, or Tuxtla. Like San Andres it is among the outlying foothills and ridges of the western slope of the range bordering the sea coast of this district. Although a little lower than San Andres the climate, vegetation and agricultural products of this locality are practically identical with those about San Andres from which it is separated by a series of low rolling ridges. The soil about here is a clayey one resulting from the decomposition of lavas. The geological formation is wholly volcanic.

VEGETATION.

As already noted the agricultural products here are about the same as about San Andres except that tobacco is not successfully grown owing to the soil being less sandy and somewhat richer here than at that place.

The plants sent in from San Andres as illustrative of the flora there are equally characteristic of this place.

The rolling hills and valley about here are partly cultivated but mainly covered with woods or second growth thickets.

Ortalis vetula

Cryturus sallaei

Cryturus boucardi

Columbigallina rufipennis

Scardafella inca

Cathartes aura

Catharista atrata

Rupornis griseicauda

Piaya c. mehleri

Momotus lessoni goldmani

Ceryle cabanisii septentrionalis

Melanerpes santa-cruzi graletonpensis

Nyctidromus albicollis

Chaetura gaumeri

Tityra personata

Platypsaris ag. sumichrasti

Tyrannus m. couchi

Pitangus derbianus

Myiozetetes texensis

Legateos variegatus

Myiarchus lawrencei

Pyrocephalus r. mexicanus

Psilorhinus morio

Psilorhinus mexicanus

Icterus mesomelas

Icterus gularis tamaulipensis

Quiscalus macrourus

Dives dives

Arremonops r. crassirorstris

Cardinalis c. littoralis

Sporophila moreletti

Volatinia splendeus

Euetheia o. pusilla

Progne chalybea

Stelgidopteryx serripennis

Tachycineta albilinea

Vireo flavoviridis

Polioptila c. mexicana

Merula grayi

Locality catalog for Sclater, P.L., Catalogue of the Birds collected by M. Auguste Salle in Southern Mexico, with Descriptions of new Species. Proc. Zool. Soc. London, 1856 (1857) pp. 283-310.

No. 1 Cordova
2 "
3 "
4 "
5 —
6 Cordova
7 —
7 —
8 Cordova
9 "
10 "
11 Vera Cruz
12 Cordova
13 "
14 "
15 "
16 "
17 "
18 "
19 Suapam
20 Cordova
21 "
22 —
23 El Jacale
23 San Andres, Suapam
24 Cordova
25 —
26 Cordova
27 —

No. 28 Cordova
29 —
31 Cordova
32 "
33 "
34 "
35 "
36 "
37 "
38 "
40 "
41 "
42 "
43 "
44 "
46 "
47 "
48 "
49 "
50 "
52 "
53 "
54 Rotosinapam
56 Cordova
57 "
58 "
59 —
59 Cordova
60 —

No. 61 Cordova
63 "
63 "
65 —
66 Cordova
67 —
68 Cordova
69 "
70 "
71 "
72 —
73 Cordova
74 "
75 "
76 —
77 Cordova
78 "
79 Plains of Vera Cruz
80 Cordova
81 —
82 Cordova
83 "
84 "
85 —
85 bis. Cerro del Gallego; Cordova
86 Cordova
87 "
88 "

No. 89	Cordova	No. 119	El Jacale	No. 148	Cardova
90	"	120	Cordova	149	"
91	"	121	"	150	"
92	"	122	—	151	"
93	"	123	Cordova	152	"
93	"	123	—		
94	"	124	—	153	"
95	—	125	Cordova	154	"
96	Cordova	126	"	155	"
97	"	127	"	156	"
98	"	128	—	157	El Jacale
99	"	129	Cordova	158	Cordova
		130	"		
100	"	130	—	158	Orizaba
101	"	131	Cordova	159	Cordova
102	"	132	"	161	"
104	"	133	—	162	—
105	"	134	Cordova	163	Cordova
106	Ranchos de Suapam	135	—	164	"
107 et 210	Romatlan	137	Cordova	165	"
				166	"
108	El Jacale	138	"	167	El Jacale
109	Cordova	139	"	168	San Andres Chalchicomula
111	"	140	"	169	Cordova
112	"	141	"	170	"
113	"	142	"	171	"
114	— Type of Carthiola mexicana	143	"	172	"
115	Cordova	144	Maltrato	174	—
116	—	145	Cordova	175	Orizaba
117	Cordova	146	"	176	"
118	—	147	—	177	Cordova

No. 179 Orizaba

181 S. Andres Gorion

183 —

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193 —

194 —

195 —

196 —

198 Orizaba

199 —

200 —

201 —

202 —

204 —

204 Cordova

205 —

207 —

208 —

209 —

211 —

212 —

No. 212 —

213 Orizaba

– peculiar to mountains
x above 2000 feet
o above 1000 feet

Higher elevations of mountains

omit	o	Cryptasellus boucardi boucardi
omit	o	Penelopa p. ~~purpurascens~~ purpurascens
omit	o	Columba nigrirostris (base to summit)
provisional	x	Leptotila plumbeiceps plumbeiceps
–	o	Oreopeleia lawrencii carrikeri
	o	Campylopterus hemileucurus hemileucurus
–	x	Pampa pampa excellens
	o	Trogon collaris puella
omit	o	Trogon massena massena
omit	o	Hylomanes momotula momotula
	x	Aulacorhynchus prasinus prasinus
? omit	x	Celeus castaneus
? omit	x	Piculus rubiginosus yucatanensis
omit	x	Dittasomus griseicapillus sylvioides
	x	Lepidocolaptes affinis affinis
omit	x	Dendrocolaptes certhia sancti-thomae
	x	Xenicopsoides montanus variegaticeps
omit	x	Myiodynastes maculatus insolens
–	x	Empidomax flavescens imperturbatus
omit	o	Platyrhynchus oleaginea assimilis
	x	Turdus assimilis leucauchen
?	x	Myadestes unicolor unicolor
	x	Catharus mexicanus mexicanus

one Jays Zapotes Jan. 18 during Storm

— x Myioborus miniatus molochinus

o Basileuterus culicivorus culicivorus (straggler to lowlands)

x Basileuterus bella scitulus

omit o Tanagra gouldi gouldi

obs x Piranga leucoptera leucoptera
Trus Zapotes Jan. 26
Feb. 28

upper Tropical Zone x Lanio aurantius

on Trus Zapotes Jan. 17

⊠ Chlorospingus ophthalmicus ophthalmicus

omit. o Cyanocompsa parellina parellina

— x Atlapetes apertus

Migrants from south

? Aggiotis candida candida first seen Feb. 28, afterward common

? Legatus leucophaius variegatus coming in early April

Myiodynastis luteiventris luteiventris. arriving April 1

? Myiarchus tyrannulus nelsoni. common after middle of March not seen in winter

? Cyclarhis guianensis flaviventris

Vireo flavoviridis flavoviridis

Wanderers

Pelecanus occidentalis carolinensis

Larus atricilla

Pitangus sulphuratus bolivianus. on Tres Zapotes Jan. 18 during storm

Basileuterus culicivorus culicivorus Mountain form Straggler to Tlacotalpam Feb. 7 Tres Zapotes Jan 26

Larus argentatus Tres Zapotes Jan. 26, Feb. 28, common in winter

Chlorospingus ophthalmicus ophthalmicus on Tres Zapotes Jan. 17.

M.A. Carriker, Jr., 1940

Resume of the Trip to Vol. San Martin.

We left Tres Zapotes on April 14, at 8 A.M. The day was cloudy, with north wind, following the severe "norte" of the 12th. and 13th. We went by way of Tapacoyan Arriba, then swinging southward to Potreros, to escape the outlying foothills of Cerro Tuxtla.

On the east side of the Cerro Tuxtla the land is very broken, a jumble of high hills, but with very little rock in evidence anywhere.

We reached Santiago de Tuxtla at 1 P.M., where a brief halt was made for lunch. I now found that the rain of the 12th. had been very heavy in the vicinity of Santiago de Tuxtla, so that the long climb from there up to the divide at Buena Vista was slow and laborous, due to deep mud on the trail. However, on the San Andres side of the divide the precipitation had been very light, and the trail nearly dry, but even so, we did not reach San Andres until 4 P.M.

That evening I contacted a man who claimed to be able to guide us to the summit of the Volcano, and arrangements were made to start early the following morning, and did actually leave at 7.30.

At 9.30 we reached a solitary house on the slopes of San Martin, at a place called El Tular, at 2,125 feet altitude. Arrangements were made to live at this house, and the pack was left there while we continued on up the slopes of the volcano.

Unfortunately, like so many Latins, my so-called guide was of little use. He proceeded to get us completely lost and we wandered up and down over old logging trails for over three hours, until a man was accidently encountered who guided us to the trail which leads to the summit.

However, when we finally reached the end of the mule trail (3,550 feet) it was 4 P.M., and entirely too lat to think of proceeding further, so we returned to El Tular.

Although we did not reach the summit that day, the time was not entirely lost, since in our wanderings I had been able to learn much concerning the trails on the mountain, all of which was subsequently of great help, while I had seen enough of the wonderful forest which completely covers the volcano, to make me very optimistic about finding new species of birds there.

We reached El Tular at 6 P.M., pretty well fagged after ten hours in the saddle. I despatched the guide, after having with difficulty convinced him that he could be of no further assistance to me, and then we proceeded to make ourselves as comfortable as the limited space and conveniences of the house would permit.

El Tular lies in a pocket on the south slope of San Martin, at a point slightly above the line below which all forest has been cleared away and the land placed under intensive cultivation. A beautifulclear, cold steam of water emerges from some subterranean channel in the upper end of the little valley and flows off to the southwest. The soil of the whole mountain slope, almost down to San Andres, is a very black, rich, decomposed volcanic ash, with practically no rock of any sort.

The forest which extends from El Tular upwards to the summit of San Martin, and eastward between San Martin and La Vigia, is now practically unbroken by clearings, and is one of the most magnificent mountain forests I have ever seen. There are many perfectly huge trees, very tall and thick, while the undergrowth is luxuriant and succulent almost everywhere, but not difficult to penetrate. The little thorn covered "Chocha" palm, so abundant on the Cerro de Tuxtla is entirely absent, but there are many small, green, smooth palms.

Birds are fairly abundant, as mountain forests go, but doubtless many remain in the upper portions of the huge trees and are rarely seen below.

The slopes are very gentle up to 3500 feet,in many places large areas being almost flat,while the ridges and ravines are not precipitate.

The soil everywhere consists of the same decomposed volcanic ash,in many places the soil itself being quite a thin covering over the coarse volcanic ash.

One characteristic is very outstanding,the almost total absence of streams or brooks,or even small springs of water. Apparently the abundant rainfall soaks down through the thick bed of ash and does not appear on the surface until far below. Besides the stream at El Tular there is only one other small trickle of water that I saw,which runs down a deep ravine over basaltic rock,near the point where the mule trail to the summit ends, at the place they call "la cocina". This is at the foot of the volcanic cone proper,and two hours ride from El Tular.

At the time of my visit practically all of the birds were breeding, and consequently in full song,and therefore much more conspicuous than they otherwise would have been. Probably the most abundant bird,all the way from 2500 feet to the summit,and particularly around the summit,was Myiadestes,its beautiful song,with many slight individual variations, being constantly heard,although the birds is rarely visible. Henicorhina leucosticta is also fairly common.

The ascent of the last 2,000 feet,on foot,is over a narrow path,very old apparently,which follows a narrow ridge. In some places it is very steep,but not everywhere. The ascent may be made in an hour by a good, experienced climber.

The dense,tall forest ascends the slopes of the cone to within a few hundred feet of the rim of the crater,with the trees,reduced in size, continuing upward to the very rim's edge,where they are more gnarled and twisted and thickly covered with moss.

Extending from the edge of the woodland,down into the crater,is an almost impenetrable tangle of tough shrubbery,which changes lower down to forestgrowth of imposing porportions.

The weather was very bad on the days of my first two ascents to the summit,with thick fog and rain,so that nothing was visible beyond a hundred feet,but the last ascent,on April 21st. was on a cloudless day,with the air washed clean of smoke.

The point at which the trail emerges onto the rim of the crater proved to be the highest point of the volcano(middle of the south side),while the whole of the southern side of the rim is much higher than the north side,which gives a grand view across the summit to the lowlands to the north and the sea to the east. Unfortunatelydue to the configuration of of the land to the south,most of the view was cut off in that direction, towards San Andres.

The crater is approximately 1 1/4 miles across from east to west and about a mile in the opposite direction. The depth I would judge to be about 800 feet,at most. There are twoo small vents,with cones and craters, rising from the floor of the main crater. These are also completely forested,similiar to the rest of the crater,xx proof that their activity did not continue for any great length of time after the main eruption.

There is one small area on the floor of the crater(perhaps 10 acres) which is almost bare of vegetation,with only a few small,scattered trees, while the exposed ash has a brownish appearance.

The area above 3,500 feet is much too small to support a distinctive bird fauna,characteristic of that altitude. My three trips to the summit, and work around the rim and on the slopes of the cone,yielded not a single species which was not to be found below,with possibly one exception:Basileuterus belli (Nos.772-3). This pair was taken near the summit, and a third at about 5,000 feet.

There were quite a number of migrant Warblers around the rim of the crater. Whether they had wintered there or dropped behind in a northward flight,it is difficult to say,but I rather think that the latter would

be the correct assumption. The Magnolia was the most abundant,while Wilson's Warbler,Dendroica virens,and another species,No.775.

There is undoubtably a species of Odontophorus present in the Tuxtla mountains. I heard of it at Tapacoyan,as being present on Cerro Tuxtla, and received the same information at El Tular,while to clinch the matter,I actually heard them calling on San Martin.(The call note is unmistakable).

It is unfortunate that I was not able to learn beforehand of the splendid collecting conditions on San Martin,so that I might have gone there sooner and spent more time,although I do not believe that very many additional species would have been secured,but unquestionably some.

On the return trip I crossed the range from Santiago de Tuxtla to Lirios,instead of making the long circuit around Tuxtla to Tapacoyan, and while I found the trail to be very rock and broken in places,it was easily passable for a pack mule in the dry season,but would undoubtably become impassable during the rainy months. One and a half hours were gained by returning by this route,only 3 1/2 hours being consumed from Tuxtla to Tres Zapotes,instead of five by the other route.

I did not check the altitude at the pass over the range above Lirios, but would judge that it is probably not more than 1000 feet,possibly less. The Tuxtla side is mostly cleared of forest,but there still remains a considerable tract of virgin forest on the west side at a distance of an hour's ride from Lirios.

Cerro de Tuxtla and Vicinity.

The Cerro Tuxtla is the southwesternmost extremity of the Tuxtla range'where it ends abruptly in this peak,and which rises to an elevation of approximately 3,000 feet. There are almost no outlying foothills on the west or south sides,the mountain rising abruptly from the plain,although the region lying between Tres Zapotes and the foot of the peak is one of low,jumbled hills,with one fairly high, isolated hill at some distance west of Tapacoyan.

At the western base of the mountain lies the hamlet of Tapacoyan Arriba,distant about four miles from Tres Zapotes,and inhabited almost entirely by people in whom indian blood largely predominates.

The whole of the western and southern slopes of the mountain are covered with a luxuriant growth of almost virgin forest,except for occasional clearings up to 800 feet,up to which point it is possible to ride on horseback.

The eastern slopes,on the other hand,have been almost completely denuded of forest,except for scattered areas which are too precipitous for cultivation or pasture,and the greater bulk of this cleared land is now used as pasture.

The region to the east and southeast is broken and hilly,not flat like the Tres Zapotes area.

The first ascent of the mountain was made on March 11th.,riding to the end of the trail on the lower slopes in about an hour and 45 minutes,then continuing on foot to the lower of the two peaks form ing the summit. These trips consumed the entire day,starting from camp at dawn and returning about 6 P.M.,while the birds were skinned the same night and the following day,the temperature at this time making this possible without danger to the specimens. It was not a very satisfactory arrangement,but it seemed the best,under the existing circumstances. There was no decent place to stay in Tapacoyan,while the configuration of the mountain slopes and few existing trails and brooks made the problem of selecting a suitable camp site a difficult one.

New species were secured in surprising numbers,most of the forms found on the mountain being entirely absent from the surrounding low-lands,

and others only taken there as occasional stragglers,perhaps driven down from the mountain by the cold,stormy weather of January and February.

No work was done on the mountain below 800 feet until in May,when I spent eight days at Tapacoyan,the chief objective being to secure as complete a collection from the higher altitudes,as well as to work the lower slopes and contiguous lowlands.

The slopes on the west slopes of Tuxtla,except for the portion below 800 feet,is almost entirely a virgin growth,with very many tall spreading trees,a really beautiful forest. The undergrowth in many portions is very scant,due to the dense shade,but in such portions a small palm,densely covered with wicked thorns,and locally known as "Chocha",is very abundant. It was impossible to avoid,altogether, these thorn-covered palms,and every trip up the mountain meant a goodly crop of them to be removed from ones legs,hands and arms.

The portion ~~exten~~ of the mountain extending above 2,000 feet is small in area,and is composed of narrow,steep sided ridges only,along the tops of which the trees are much lower,more stunted and gnarled, and often covered with a varied assortment of epiphytes,including many orchids and bromelias. Several species of begonias were also present on these high ridges,while the trees were often heavily draped with green moss.

Surprisingly few of the lowland species of birds were found above 1000 feet,the principal ones being Hylophilus decurtatus and H.ochraceiceps (the latter more abundant on the mountain than in the lowlands); Basileuterus culicivorus and Henicorhina leucosticta,also Veniliornis oleaginis.

The two species of Habia are found together on the lower slopes, while Formicarius seems to be more abundant on the mountain(up to 1000 feet) than in the lowlands.

Birds are not abundant on the mountain,outside of a few species, while their collection was made very difficult by the nature of the forest,many species frequenting the higher portions of the tall treos almost exclusively,while very few forms peculiar to the ground and undergrowth were present,and such species (excepting Basileuterus culicivorus and Henicorhina) were few in numbers.

Often birds could be heard singing in the tree-tops,but it would be impossible to see them,and even if seen,were not always easily secured,even with a heavy charge of No.12 shot.

On the whole,birds were much more plentiful on San Martin than on Tuxtla,which is only natural,since the area suitable to species of the lower subtropical zone was infinitely greater on San Martin.

During the time spent in Tapacoyan during May,collecting became exceedingly difficult,so that a half day of hard work would rarely yield more than 6 to 8 desirable specimens. At this time there was the additional handicap in the form of myriads of huge cicadas,whose perpetual din made it almost impossible to even hear the call notes of birds unless they were quite close. Then,to add to all of these troubles the rains suddenly began on May 7th,with a terrific thunder storm at 3 A.M.,which nearly swamped the shack in which I was living, and was followed by almost daily rain,always during the forenoon.

All of these difficulties account for the few specimens taken during the eight days spent at Tapacoyan,although Modesto was out every day and myself every day but one. Even so,the trip was well worth while,since we added six species to the list from the mountain, including the fine pair of Crax globicera,an exceedingly rare bird in this region. Four additional species were also taken at Tres Zapotes in the two days spent there before going to Tapacoyan.

Tlacotalpam.

The bird fauna around Tlacotalpam proved to be quite different in many respects to that of Tres Zapotes,due largely to the entire absence there of forest,or even heavy woodland,the vegetation consisting largely of thorn -scrub,shrubbery and bushes,while ponds and shallow lagoons abounded,as well as large areas of pasture land.

The higher,drier land,mostly near the river,is largely planted with sugarcane,where bird life is almost non-existent,while most areas too ~~in~~ low and wet for cane have been converted into "potreros". The existing woodland,thor scrub,etc. is found exclusively in the areas bordering the ponds and lagoons,with considerable tracts of marshy meadows lying between this scrub and the water.

The number of species of land birds there was not large,but many forms were quite abundant(see field notes under each species).

Aquatic and semi-aquatic forms were,naturally in abundance,especially Butorides,Agelaius,Jacana,Fulica americana,several migrant Ducks, both White Herons and several migrant Shorebirds. Rosthramus and Urubitinga,also Buteo ruficauda,were common around the lagoons,while Phalacrocorax abounded in the river. In February there were many Pelicans both on the river and in the larger lagoons,both the White and Brown, but in May they seemed to have largely dissapeared. A single Roseate Spoonbill was seen between Tlacotalpam and La Boca de San Miguel on May 1st.

Two species of Tern were seen there,a larger form with yellow bill, and a smaller one with black bill. The latter was shot but could not be preserved,on account of the attack of dysintery which I suffered while there in May.

I think that practically all of the land birds found in the vicinity were taken,but quite a number of the aquatic forms and Shore Birds were not collected,some intentionally,others not,the latter due largely to the unfortunate attack of dysintery which I suffered last week I spent there in May,at which time I had planned to secure these forms.

Conejo.

The specimens labelled as from "Conejo",were taken in the high sand-dune ridge which borders the coast from the region of Alvarado eastward for a long distance.

These ancient sand dunes form a low,broken range of hills,at least a mile in width and with an averave of probably about 300 feet in height. Apparently these hills were,at some previous time,completely covered with low woodland,much of which still remains in scattered areas,while the remainder has been cleard and now supports a thick growth of short grass,used for pasture. A scant top soil has been formed,fairly thick in the depressions,but very thin on the slopes.

As often happens in such a habitat,birds were abundant,but the number of species not great.

A few species were taken there which were not seen at any other place,the most outstanding being two species of Vimus(one a migrant, the other a resident);Scardafella inca;Lark Sparrow;Grasshopper Sparrow. Icterus prosthmelas was more abundant there than at any other place visited,also Thraupis episcopus. A Nighthawk was seen there in May(two birds),one was shot but escaped wounded.

Also quite a number of species were taken or observed there which were absent from Tlacotalpan,undoubtably due to the nature of the terrain and more abundant and distinctive flora. I believe that further work in this region would have yielded additional species,more especially North American migrants.

List of Birds Collected in State of Vera Cruz, Mexico, Jan. 17th. to May 25, 1940, by M.A. Carriker, Jr.

	Tres Zapotes	Tlacotalpam	Sand Dunes Conejo	San Martin	Tapacoyan	Cerro Tuxtla
Tinamidae						
Cryptureilus cinnamoneus	1					
" soui *meserythrus*		1				2
" *boucardi*						6
Tinamus *major robustus* (type robustus)	1					1
Cracidae.						
Crax *globicera* (♂ with yellow caruncle)						1
" *globicera* (♀ without caruncle)						1
Ortalis vetula	7					
Penelope *purpurascens*				2		
Columbidae.						
Columba [illegible] (near bogotensis)						3
" rufina	1		1			
Columbagallina minuta	2					
" passerina pallescens			3			
" rufipennis	1					
Leptoptila rufaxilla						1
" verreauxi	3					
Melopelia a. asiatica						1
Orecpeleia linearis(?)				1		2
" montana						1
Scardafella inca			2			
Zenaidura macroura	1					
Rallidae and Heliornithidae; Colymboidae						
Carolina Rail		1				
[Creciscus] = *Laterallis*	1					
Heliornis fulica	2					
Colymbus brachypterus	1	3				
"Shore Birds"						
Gallinago delicata		1				
Limatosus mexicanus						
Jacana spinosa gymnostoma	2	2				
Oxyechus vociferus	1					
Numenius _____ (Curlew)		2				
Tringa minuta		1				
Ardeidae; Aramidae, etc.						
Aramus _____	1					
_____ _____ (Boat Billed Heron)	1					
Butorides virescens			5			1
Anatidae; Phalacrocorax and Plotus						
Dendrocygna _____	1					
Cairina moschata	1					
Plotus anhinga	1					
Laridae						
Larus _____ ?/			/			

	Tres Zapotes	Tlaco-tal-pam	Conejo Sand Dunes	San Martin	Tapa-coyan	Cerro Tuxtla
Falconidae, etc.						
Buteo ruficaudus	1	1			1	
Falco albigularis						
" sparverius	2					
Herpetotheres cachinans	2					
Leucopternus ghiesbrechti						1
Rostrhamus sociabilis	2					
Urubitinga _____	1	1				
_____ Nos.468,543,613						3
_____ No.388(chestnut)	1					
Bubonidae, etc.						
Ciccaba virgata	4					
Glaucidium _____	8		1			
Psittacidae.						
Amazona a.autumnalis	4					
Conurus aztec	4					
Picnus senilis = amazona albifrons	5					
Alcidinidae; Momotidae.						
Eylomanes m.momotula				2		2
Momotus lessoni goldmani	4					2
Chlorocerule amazona	1					
" aenea stictoptera	1					
" americana septentrionalis	3					
Streptoceryle t.torquata	1					
Caprimulgidae; Cypselidae.						
Antrostomus carolinensis				1		1
" salvini(?)						1
Nyctidromus albicollis merrimani	4	3				
Trochilidae						
Amazillis yucatanensis cerviniventris	13					2
Argyrtrina candida	7					5
Chlorostilbon caniveti	2					
Pampa pampa curvipennis ~~(?)~~				3		1
Phaethornis adolphi	5					
" longirostris veracrucis						2
Campylopterus hemileucurus ~~(?)~~				1		8
Trogonidae; Cuculidae						
Trogon melanocephalus	5					
" variegatus sallei	2					
" massena (~~nec massena~~) 541						1
Trogonurus ~~sp.~~ (?) puella						6
Crotophaga sulcirostris	1					
Piaya cayana thermophilae	1	1				2
Tapera naevia excellens	1					
Ramphastidae and Picidae.						
Aulocorhynchus p.prasinus				5		
Pteroglossus t.torquatus	3					
Rhamphastos p.piscivorus	5					
Celeus castaneus						2
Centurus dubius veracrucis	6	1				
Ceophloeus lineatus similis	3					
Chloronerpes rubiginosus yucatanensis				2		5
Dryobates scalaris ridgwayi	2					
Sphyrapicus guatemalensis regius	3					
Veniliornis olivinus	5					5

	Tres Zapotes	Tlaco-tal-pam	Conejo Sand Dunes	San Martin	Tapa-coyan	Cerro Tuxtla
Formicariidae.						
Formicarius analis moniliger	1			2		4
Grallaria varia _____	1					2
Sanphocoenus f.rufiventris	7					
Taraba _____	5					
Thamnophilus doliatus _____	8	1	2			
Furnariidae; Dendrocolaptidae.						
Automolus ochrolaemus cervingularis	1			1		5
Synallaxis erythrothorax	5					
Xenops minutus mexicanus	1					
Xenopsoides montanus variegaticeps				2		
Dendrocincla a.anabatina	1					2
Dendrocolaptes certhia sanctae-thomae						3
Lepidocolaptes a.affinis(?)				2		
Sittasomus griseicapillus sylvioides				1		3
Xiphorhynchus f.flavogaster	8					3
Tyrannidae.						
Elaenia flavogaster subpagana	1					
" viridicata placens	5		1			
Empidonax _____ (probably 2 species)	3	1				
" flaviventris(?)	1					
" minimus	2					
" trailii(?)		1				
" virescens(?)	2					
Legatus leucophaius variegatus	4					
~~Nitrephanes(?)~~ Empidonax.				4		
Muscivora forficata	2		1			
" tyrannus		2				
Myiarchus c.cinerascens	4		1			1
" tuberculifer lawrencii	7		1			1
" tyrannulus nelsoni	2		1			
Myiobius s.sulphureipygius						7
Myiochanes richardsoni (probably 2 species)	3	1	1			
Myiodynastes luteiventris				1		
Myiozetetes texensis similis	3	1	1			
Oncostoma c.cinereigulare	9					1
Onychorhynchus m.mexicanus	1					
Pipramorpha oleaginea assimilis	1			2		3
Pitangus sulphuratus derbianus	2	3				
Platyrhynchus cancrominus	9					2
Pyrocephalus rubinus mexicanus	3	3				
Todirostrum cinereum finititum	1	3				
" sylvia schistaceiceps	1					
Tolmomyias sulphurescens cinereiceps	2					1
Tyrannus melancholicus couchii	2	1				
Cotingidae; Hirundinidae						
Tityra inquisitor fraseri	2					
" semifasciata personata	3					
Iridoprocne a.albilinea						
" bicolor						
Stelgidopteryx ruficollis serripennis						
Troglodytidae						
Heleodytes z.zonatus	5				3	
Henicorhina leucosticta prosthleuca	2					3
Nannorchilus l.leucogaster	5					
Thryothorus rutilus maculipectus	7		3 2			1
Troglodytes aedon _____	1					

	Tres Zapotes	Tlaco-talpam	Conejo Sand Dunes	San Martin	Tapa-coyan	Cerro Tuxtla
Mimidae; Turdidae; Polioptilidae.						
Dumetella carolinensis	2					
Mimus _____ (Nos.177-8-9)			9			
" polyglottus leucopterus			1			
Polioptila caerulea mexicana(?)	6	2				
" _____ (No.320)						1
Catharus m.mexicanus				2		1
Hylocichla f.fuscescens No.96	2					2
" ustulata subsp.		1		1		
Myiadestes u.unicolor(?)				2		5
Turdus a.assimilis(?)				2		5
Turdus g.grayi	3	2				
Turdus migratorius phillipsi (?) No.330	1					
Vireonidae; Compsothlypidae.						
Cyclorhis guianensis flaviventris	4				1	
Hylophilus d.decurtatus	4				1	5
" o.ochraceiceps	2			2		4
Vireo flavifrons(?) No.277	1					
" g.griseus	5					
" virescens flavoviridis	1	1	1			3
Basileuterus b bellii No.772-3)				3		
" c.culicivorus(?)	1	1				9
" r.rufifrons	1			2		1
" salvini (?)	2				3	
Chamaethlypis poliocephala palpebralis	9			2	1	1
Compsothlypis americana pusillus	3					
~~Dendroica (?) _____ No.91~~	~~3~~					
Dendroica a.aestiva	3		1			
" c.coronata		2		1		
" dominica albilora	2			1		
" magnolia	4	1				
" v.virens	2			1		
Geothlypis _____	6	4				
Granatellus s.sallaei	1					
Helmitheros vermivorus (?) ~~_____~~	4					
Icteria v.virens	5					
Mniotilta varia		1	1			
Myioborus m.miniatus				4		
~~Setophaga (?)~~ Wilsonia canadensis				1		1
Sciurus aurocapillus	2		1			
" noveboracensis		2		1		
Setophaga ruticilla	2					
" (Tolmie's Warbler'?) (621)	1					2
Vermivora ~~peregrina~~ celata		2				
" r.ruficapilla	1	2				
Wilsonia citrina(?) No.32)	3	2				
Wilsonia pusilla _____ (139) yellow front	3	2		1		
" " _____ (584) black to bill	1					
~~Wilsonia (?) No.91~~	~~1~~					1
~~" " Wilsonia pusilla~~ Oporornis formosa	3					
~~" No.100~~	~~0~~					
Fringillidae.						
Arremonops crassirostris	8					4
Pyrrhuloxia sinuata				4		1
_____ No.174-5.			2			
Cyanocompsa concreta	3					1
"Grosbeak Guerrero" (131-3)		2	1			
Guiraca caerulea(?) (588)						2

	Tres Zapotes	Tlaco-talpam	Conejo Sand Dunes	San Martin	Tapa-coyan	Cerro Tuxtla
Fringillidae (con.)						
Melospiza lincolni	1	1	1			
Oryzoborus funereus(?) (71)	1					
Passerina ciris	3					
" cyanea	2					
~~Pheucticus (?)~~ Caryiothraustes poliogaster	3					4
Richmondena cardinalis	4		2			
Saltator atriceps(?) White throat(354)	3					
" " (?) Chestnut throat	14					
" grandis	6	4				
" maximus gigantodes	3					
"Sharp Tailed Sparrow" No.1??			1			
Spercphila morelletti	2		2			1
Volatinia jacarini splendes	1					
Zonaris pusilla	3					3
Coerebidae; Tanagridae.						
Coereba flaveola mexicana	3			1		1
Cyanerpes cyanus carneipes						6
Chlorospingus o.ophthalmicus	1			4		
Eucomitis penicillata pallida	2					
Tabia ____ 446(conspicuous crest)	2					10
" rubica rubicoides	6					2
Tomispingus(?) ____ 163.	4					
Lanio a.aurantius						11
Phlogothraupis sanguinolenta	4					1
Piranga l.leucoptera						2
" r.rubra				1		
Tanagra g.gouldi						1
" l.lauta	3					
Thraupis abbas	7		1			
" episcopus di conus	3		2			
Icteridae.						
Agelaius ____		12				
Amblycercus h.holosericeus	3	4				
Cassidix m.mexicana		6				
Dives d.dives.	4	1				
Cymnostinops montezumae	1					
Icterus ____ No.258	1					
" galbula	3					
"giraudii tamaulipensis	2	4				
" mesomelas	2	4				
" prosthmelas			3			
" spurius	3	1	1			
Sturnella magna mexicana	5	2				
Tangavius a.aeneus	2	1				
Corvidae.						
Psilhorhinus m.mexicanus	1					
Xanthoura yncas luxuosa				3		1

5 of 7 families
291 forms

Northern migrants marked with a check ✓
89 migrants

Family Tinamidae

Tinamus major percautus Van Tyne — Cerro de Tuxtla 2000 ft., Hueyapan

Crypturellus soui meserythrus (P. L. Sclater) — Tres Zapotes, 800 ft. Cerro de Tuxtla

Crypturellus cinnamomeus sallaei (Bonaparte) — Hueyapan

Crypturellus boucardi boucardi (P. L. Sclater) — Sierra de Tuxtla above 1000 feet

Family Colymbidae

Colymbus dominicus brachypterus Chapman — Tres Zapotes

Family Pelecanidae

M. ✓ Pelecanus erythrorhynchos Gmelin — Tlacotalpam.

Wanderer Pelecanus occidentalis carolinensis Gmelin — Tlacotalpam.

Family Phalacrocoracidae

Phalacrocorax olivaceus mexicanus (Brandt) — along the rivers

Family Anhingidae

Anhinga anhinga leucogaster (Vieillot) — Tres Zapotes, Hueyapan and along the rivers. ✓

Family Fregatidae

Fregata magnificens rothschildi Mathews — Alvarado

Family Ardeidae

Casmerodius albus egretta (Gmelin) — Tres Zapotes.

Hydranassa tricolor ruficollis (Gosse) — Tres Zapotes

Florida caerulea caerulea (Linnaeus) — Tres Zapotes and along the rivers

M. ✓ Butorides virescens virescens (Linnaeus) — Tres Zapotes, Tlacotalpam

Nycticorax nycticorax hoactli (Gmelin) — Lowland Swamps, probably resident in part

Nyctanassa violacea violacea (Linnaeus) — Lowland swamps.

Family Cochleariidae

Cochlearius cochlearius zeledoni (Ridgway) Huyapam

Family Ciconiidae

Mycteria americana Linnaeus Tlacotalpam

Family Threskiornithidae

Ajaia ajaja (Linnaeus). Tlacotalpam

Family Anatidae

Dendrocygna autumnalis autumnalis (Linnaeus) Lowlands

Cairina moschata (Linnaeus) Tres Zapotes, Huyapam

M ✓ Querquedula discors (Linnaeus) Lowlands

M ✓ Nyroca collaris (Donovan) Tlacotalpam

M ✓ Nyroca affinis (Eyton) Tlacotalpam

Family Cathartidae

Sarcoramphus papa (Linnaeus) Resident

Coragyps atratus (Bechstein) "

part M. Cathartes aura aura Linnaeus Resident in part. Migrant in part. April 6 a considerable flight April 10, 30 in migration.

Family Accipitridae

Elanus leucurus majusculus Bangs and Penard Lowlands.

Rostrhamus sociabilis major Nelson and Goldman Lowlands

M. ✓ Accipiter striatus velox (Wilson) Tres Zapotes, April 7

M ✓ Buteo albicaudatus hypospodius (Gurney) flocks passing March 30 to April 12 few to several hundred in a day

Buteo magnirostris griseocauda Ridgway Lowlands and foothills.

Buteo nitida plagiata (Schlegel) Tres Zapotes

Parabuteo unicinctus harrisi (Audubon) Tlacotalpam

Leucopternis albicollis ghiesbreghti (DuBus) 1000 feet on Cerro de Tuxtla

Hypomorphnus urubitinga ridgwayi (Gurney) Tlacotalpam. Cerro de Tuxtla 1000 - 2500 feet.

Buteogallus anthracinus anthracinus (Lichtenstein) Tres Zapotes

Busarellus nigricollis nigricollis (Latham) Boca San Miguel, Tres Zapotes, Huyapam

Family Accipitridae (Cont'd.)

M ✓ Circus cyaneus hudsonius (Linnaeus) Tlacotalpam March 30, April 16

Geranospiza nigra nigra (DuBus) Tres Zapotes

Family Falconidae

Polyborus cheriway audubonii Cassin Tres Zapotes

Herpetotheres cachinnans chapmani Bangs and Penard Tres Zapotes

Falco fusco-coerulescens septentrionalis Todd Tres Zapotes

M ✓ Falco sparverius sparverius Linnaeus Tres Zapotes. common to March 17, 1939.

Falco albigularis albigularis Daudin Tres Zapotes, Cerro de Tuxtla 1000-2000 feet

Family Cracidae

Crax rubra rubra Linnaeus Cerro de Tuxtla

Penelope purpurascens purpurascens Wagler Sierra de Tuxtla, from 1000 feet up

Ortalis vetula vetula (Wagler) Lowlands

Family Aramidae

Aramus ~~scolopaceus~~ guarana dolosus Peters Tres Zapotes, Hueyapam

Family Rallidae

Aramides cajanea mexicana Bangs Tres Zapotes

M ✓ Porzana carolina (Linnaeus) Tlacotalpam, February 29

Laterallus ruber tamaulipensis (Nelson) Tres Zapotes

Family Heliornithidae

Heliornis fulica (Boddaert) Lowland river channels

Family Jacanidae

Jacana spinosa gymnostoma (Wagler) Lowlands.

Family Charadriidae

M ✓ Oxyechus vociferus vociferus (Linnaeus) Tres Zapotes, January, Tlacotalpam, February

Family Scolopacidae

M ✓ Capella delicata (Ord) Tlacotalpam February 16, 1940 common

M ✓ Numenius americanus Bechstein Tlacotalpam Feb. 8, 1940

M ✓ Bartramia longicauda (Bechstein) Tres Zapotes, in northward flight april 8 & 11, 1939

M ✓ Actitis macularia (Linnaeus) Common along large rivers

M ✓ Tringa solitaria solitaria Wilson Tres Zapotes March 23 - april 13, 1939

M ✓ Tringa solitaria cinnamomea (Brewster) Tres Zapotes March 29

M ✓ Totanus melanoleucus (Gmelin) Tres Zapotes april 11, 1939

M ✓ Totanus flavipes (Gmelin) Tres Zapotes, March 23 - april 13, 1939 & Tlacotalpam, February, 1940

M ✓ Pisobia minutilla (Vieillot) Tlacotalpam February 19, 1940

Family Recurvirostridae

Himantopus mexicanus (Müller) Tlacotalpam, February

Family Laridae

M ✓ Larus argentatus smithsonianus Coues Larger lowland waters

Larus atricilla Linnaeus Tlacotalpam. a wanderer here.

Thalasseus maximus maximus (Boddaert) Alvarado

Family Columbidae

Columba flavirostris flavirostris Wagler El Conejo, Tres Zapotes, Hueyapam

Columba nigrirostris Sclater Sierra de Tuxtla base to Segunmit.

M ✓ Zenaidura macroura carolinensis (Linnaeus) Hueyapam May 2, 1940.

M ✓ Zenaidura macroura marginella (Woodhouse) Tres Zapotes March 11, 1939

Zenaida asiatica asiatica (Linnaeus) Tres Zapotes April 13, lower slopes Cerro de Tuxtla, May 6.

Scardefella inca (Lesson) El Conejo and near San Andres Tuxtla

Columbigallina passerina pallescens (Baird) El Conejo

Family Columbidae (Cont'd.)

Columbigallina talpacoti rufipennis (Bonaparte) Tres Zapotes

Columbigallina minuta interrupta (Griscom) Tres Zapotes

Leptotila verreauxi fulviventris (Lawrence) Tres Zapotes

Leptotila plumbeiceps plumbeiceps (Sclater and Salvin) Cerro de Tuxtla 2000 ft

X Oreopeleia lawrencii carrikeri Wetmore Sierra de Tuxtla, 1000 ft and above

Oreopeleia montana (Linnaeus) Tres Zapotes and Sierra de Tuxtla

Family Psittacidae

Aratinga astec astec (Souancé) Tres Zapotes to Tapacoyan

Amazona albifrons nana W. DeW. Miller Tres Zapotes

Amazona autumnalis autumanalis (Linnaeus) Tres Zapotes

Family Cuculidae

Piaya cayana thermophila P. L. Sclater Tres Zapotes, Cerro de Tuxtla to 1500 ft, Tlacotalpam

Crotophaga sulcirostris sulcirostris Swainson Tres Zapotes, El Conejo.

Tapera naevia excellens (Sclater) Tres Zapotes, Tlacotalpam, Tapacoyan

Family Strigidae

Glaucidium brasilianum ridgwayi Sharpe El Conejo, Hueyapan

Speotyto cunicularia hypugaea (Bonaparte) Tres Zapotes

Ciccaba virgata centralis Griscom Tres Zapotes, Hueyapan.

Family Nyctibiidae

Nyctibius griseus mexicanus Nelson Tres Zapotes

Family Caprimulgidae

Nyctidromus albicollis yucatanensis Nelson Tres Zapotes, Tlacotalpam

M ✓ Nyctidromus albicollis merrilli Sennett Tres Zapotes March 10, 1939

M ✓ Caprimulgus carolinensis Gmelin Sierra de Tuxtla, 1200 ft April 9, 1940, 3000 ft. San Martín April 21

M ✓ Caprimulgus vociferus vociferus Wilson Cerro de Tuxtla, 1500 ft. April 9

Family Micropodidae

Streptoprocne zonaris mexicana Ridgway Tres Zapotes

Family Trochilidae

M ✓ Archilochus colubris (Linnaeus) Tres Zapotes March 20 and 24

Chlorostilbon canivetii canivetii (Lesson) Tres Zapotes

Anthracothorax prevostii prevostii (Lesson) Tres Zapotes

?M Agyrtria candida candida (Bourcier and Mulsant) Tres Zapotes, last seen Feb. 28, 1940 possibly migrator common after

Amazilia tzacatl tzacatl (De la Llave) Tres Zapotes and base of Cerro de Tuxtla Tlacotalpam, San Andres Tuxtla, Catemaco

Amazilia yucatanensis cerviniventris (Gould) Tres Zapotes

Campylopterus ~~hemileucurus~~ hemileucurus (Lichtenstein) Sierra de Tuxtla 1000 to 3000 ft.

* Pampa pampa excellens Wetmore Sierra de Tuxtla 2000 to 3300 feet

Phoethornis longirostris veraecrucis Ridgway Cerro de Tuxtla, 1500 feet, Tres Zapotes

Phoethornis adolphi adolphi Gould Tres Zapotes and lower slopes of Sierra de Tuxtla

Family Trogonidae

Trogon collaris puella Gould Sierra de Tuxtla 1000 and upward, only on mountains

Trogon violaceus sallaei Bonaparte Tres Zapotes

Trogon melanocephalus melanocephalus Gould Tres Zapotes and lower slopes of mountains

Trogon massena massena Gould Cerro de Tuxtla 1500 feet

Family Alcedinidae

M ✓ Megaceryle alcyon (Linnaeus) Lowland waters. Last seen Tres Zapotes March 29, 1939

Megaceryle torquata torquata (Linnaeus) Lowland waters

Chloroceryle amazona mexicana Brodkorb Lowland waters

Chloroceryle americana septentrionalis (Sharpe) Lowland waters

Chloroceryle aenea stictoptera (Ridgway) Tres Zapotes

Family Momotidae

Momotus lessonii lessonii Lesson Trio Zapotes to 3000 feet of Volcán San Martín.

Hylomanes momotula momotula Lichtenstein Sierra de Tuxtla above 1000 feet

Family Ramphastidae

Aulacorhynchus prasinus prasinus (Gould) Summit of Volcán San Martín.

Pteroglossus torquatus torquatus (Gmelin) Trio Zapotes and foothills of mountains

Ramphastos sulfuratus sulfuratus Lesson Trio Zapotes to 2000 feet on Sierra de Tuxtla

Family Picidae

Dryobates scalaris ridgwayi Oberholser Trio Zapotes

Veniliornis fumigatus sanguinolentus (P. L. Sclater) Trio Zapotes to 2500 feet in mountains or more

Phloeoceastas guatemalensis regius (Reichenbach) Trio Zapotes, Hueyapan

Ceophloeus lineatus similis (Lesson) Trio Zapotes, Hueyapan

Celeus castaneus (Wagler) 1000 feet on Sierra de Tuxtla.

Piculus rubiginosus yucatanensis (Cabot) Higher elevations of Sierra de Tuxtla

Centurus aurifrons veraecrucis (Nelson) El Conejo to lower slopes of Sierra de Tuxtla

Family Dendrocolaptidae

Dendrocincla anabatina anabatina P. L. Sclater Trio Zapotes, 2000 ft on Cerro de Tuxtla

Sittasomus griseicapillus sylvioides Lafresnaye Sierra de Tuxtla 2000 to 2500 feet

Lepidocolaptes affinis affinis (Lafresnaye) above 3500 ft Volcan San Martín

Xiphorhynchus flavigaster eburneirostris (Des Murs) Trio Zapotes to 1000 feet in mountains

Dendrocolaptes certhia sancti-thomae (Lafresnaye) 2000 feet on Cerro de Tuxtla

Family Furnariidae

Automolus ochrolaemus cervinigularis (P. L. Sclater) Trio Zapotes to higher slopes in mountains

Xenicopsoides montanus variegaticeps (P. L. Sclater) 3700 feet Volcán San Martín

Synallaxis erythrothorax furtiva Bangs and Peters Lowlands

Xenops minutus mexicanus P. L. Sclater Trio Zapotes

Family Formicariidae

Grallaria guatemalensis guatemalensis Prévost Tres Zapotes and 1500 ft Cerro de Tuxtla

Formicarius analis moniliger P. L. Sclater Tres Zapotes to 3000 feet in mountains

Thamnophilus doliatus ~~mexicanus Allen~~ intermedius Ridgway Lowlands to base of mountains

Taraba major melanocrissus (P. L. Sclater) Tres Zapotes

Family Cotingidae

Attila spadiceus flammulatus Lafresnaye Lowlands and mountains

Pachyramphus major major (Cabanis) Tres Zapotes

Platypsaris aglaiae sumichrasti Nelson Lowlands

Tityra semifasciata personata Jardine and Selby Lowlands

Erator inquisitor fraserii (Kaup) Lowlands

Family Tyrannidae

M. ✓ Sayornis phoebe (Latham) Tlacotalpam February 5

Pyrocephalus rubinus blatteus Bangs Lowland Savannas.

– M ✓ Muscivora forficata (Gmelin) Present in migration at Tres Zapotes beginning 1st part of March

Muscivora tyrannus monachus (Hartlaub) Lowlands

Tyrannus melancholicus chloronotus Berlepsch Lowlands

M ✓ Tyrannus melancholicus couchii Baird Tres Zapotes March 18, 1940

– ?M Legatus leucophaius variegatus (Sclater) apparently migrant coming in early April

– M ✓ Myiodynastes luteiventris luteiventris P. L. Sclater arriving April 1.

Myiodynastes maculatus insolens Ridgway Volcan San Martin 2500 feet

Megarynchus pitangua mexicanus (Lafresnaye) Tres Zapotes

Myiozetetes similis texensis (Giraud) Lowlands

Pitangus sulphuratus guatimalensis (Lafresnaye) Lowlands

M ✓ Myiarchus crinitus boreus Bangs. March and May

M ✓ Myiarchus cinerascens cinerascens (Lawrence) El Conejo February 10, 1940

Family Tyrannidae (Cont'd.)

? M Myiarchus tyrannulus nelsoni Ridgway lowlands not found in winter. common after middle of march, probably migratory

Myiarchus tuberculifer lawrenceii (Giraud) lowlands to lower slopes of mountains

M ✓ Empidonax flaviventris (W. M. Baird and S. F. Baird) March and April

M ✓ Empidonax traillii traillii (Audubon) El Cunjo May 15, 1940

M ✓ Empidonax minimus (W. M. and S. F. Baird) January to april

x Empidonax flavescens imperturbatus Wetmore Volcán San Martín above 3000 feet

Empidonax albigularis axillaris Ridgway Tlacotalpam February 20, 1940

Myiobius sulphureipygius sulphureipygius (P. L. Sclater) Cerro de Tuxtla below 1200 feet.

Onychorhynchus mexicanus mexicanus (Sclater) Lowlands

Platyrinchus cancrominus Sclater and Salvin Lowlands to 1500 feet in mountains

Tolmomyias sulphurescens cinereiceps (P. L. Sclater) Lowlands to lower slopes of mountains

Todirostrum cinereum finitimum Bangs Lowlands

Todirostrum sylvia schistaceiceps P. L. Sclater Tres Zapotes

Oncostoma cinereigulare (P. L. Sclater) Lowlands to 1500 feet nr Cerro de Tuxtla

Elainea flavogaster subpagana Sclater and Salvin Tres Zapotes January 18, 1940

Myiopagis viridicata placens P. L. Sclater Lowlands.

Comptostoma imberbe P. L. Sclater Tres Zapotes

Pipromorphna oleaginea assimilis (P. L. Sclater) Sierra de Tuxtla above 1000 feet on Tres Zapotes, January 18 during storm

Family Hirundinidae

Stelgidopteryx ruficollis fulvipennis (P. L. Sclater) Lowlands

M ✓ Iridoprocne bicolor (Vieillot) Tlacotalpam February 7, 1940

Iridoprocne albilinea (Lawrence) Tlacotalpam February 8, 1940

Family Corvidae

Xanthoura yncas luxuosa Lesson Sierra de Tuxtla to 3500 feet, Catemaco, San Andres Tuxtla, Paso Nuevo.

Psilorhinus morio morio (Wagler) Lowlands

Psilorhinus mexicanus mexicanus Rüppell Lowlands.

Family Troglodytidae

Heleodytes zonatus restrictus Nelson — lowlands to 1000 feet elevation in mountains

Pheugopedius maculipectus maculipectus (Lafresnaye) — Lowlands

M ✓ Troglodytes aëdon aëdon Vieillot — Tres Zapotes January 20, 1940

M ✓ Troglodytes aëdon parkmanii Audubon — Tres Zapotes March 8 and April 4, 1939

Henicorhina leucosticta prostheleuca (P. L. Sclater) — Tres Zapotes to higher elevations in mountains

Nannorchilus leucogaster leucogaster (Gould) — Tres Zapotes

Family Mimidae

M ✓ Dumetella carolinensis (Linnaeus) — winter resident, lowlands to 3300 feet on San Martín

Mimus polyglottos leucopterus (Vigors) — El Conejo

Family Turdidae

M ✓ Turdus migratorius migratorius Linnaeus — Tres Zapotes February 28, 1940

Turdus assimilis leucauchen P. L. Sclater — Sierra de Tuxtla above 1800 feet

Turdus grayi grayi Bonaparte — Tres Zapotes and Playa Tulpam

Myadestes unicolor unicolor P. L. Sclater — Sierra de Tuxtla above 2000 feet

M ✓ Hylocichla mustelina (Gmelin) — winters Tres Zapotes and to 2500 feet in mountains

M ✓ Hylocichla ustulata ustulata (Nuttall) — Tres Zapotes January 29, 1940.

M ✓ Hylocichla ustulata almae Oberholser — Volcán San Martín April 16, 1940

Catharus mexicanus mexicanus (Bonaparte) — Sierra de Tuxtla 2000 feet and above.

Family Sylviidae

M ✓ 1/3 Polioptila caerulea caerulea (Linnaeus) — Playa Tulpam to 1800 feet in mountains; winter

Polioptila caerulea deppei Van Rossem — Tres Zapotes resident

Ramphocaenus rufiventris rufiventris (Bonaparte) — resident, Tres Zapotes

Family Cyclarhidae

? M Cyclarhis gujanensis flaviventris Lafresnaye Tres Zapotes. Recorded only after March 4 migrant? located only through song. Possibly overlooked earlier

Family Vireonidae

✓ Vireo griseus griseus (Boddaert) Common winter Tres Zapotes

- M Vireo flavoviridis flavoviridis (Cassin) None 1939. after April 3, 1940

M ✓ Vireo flavifrons Vieillot Tres Zapotes February 24, 1940

Hylophilus ochraceiceps ochraceiceps P. L. Sclater Tres Zapotes to 3000 feet in mountains

Hylophilus decurtatus decurtatus (Bonaparte) Tres Zapotes to 10500 feet in mountains

Family Coerebidae

Cyanerpes cyaneus carneipes (P. L.Sclater) Hilly country around base of mountains

Coereba flaveola mexicana (P. L. Sclater) Tres Zapotes to 3500 feet in mountains

Family Compsothlypidae

M ✓ Mniotilta varia (Linnaeus) winter and in passage

M ✓ Helmitheros vermivorus (Gmelin) " " " "

M ✓ Vermivorus pinus (Linnaeus) Tres Zapotes March 11, 1939

M ✓ Vermivora peregrina (Wilson) Volcán San Martín 5400 feet April 20, 1940

M ✓ Vermivora celata celata (Say) winter

M ✓ Compsothlypis americana pusilla (Wilson) winter and in passage

M ✓ Dendroica ~~aestiva~~ petechia rubiginosa (Pallas) Tres Zapotes April 6, 1939, Hueyapan April 2, 1940 El Conejo May 15, 1940

M ✓ Dendroica ~~aestiva~~ petechia amnicola Batchelder winter and in passage.

M ✓ Dendroica magnolia (Wilson) winter and in passage

M ✓ Dendroica coronata hooveri McGregor winter and in passage

M ✓ Dendroica virens virens (Gmelin) Tres Zapotes March 25 and 27, Volcán Martín April 20

M ✓ Dendroica dominica albilora Ridgway Tres Zapotes March 20, 1939, March 16 and 25, 1940

M ✓ Seiurus aurocapillus (Linnaeus) winter and in passage

M ✓ Seiurus motacilla (Vieillot) March

M ✓ Seiurus noveboracensis notabilis Ridgway winter and in passage.

Family Compsothlypidae (Cont'd.)

M ✓ Oporornis formosus (Wilson) winter and in passage

M ✓ Oporornis phildelphia (Wilson) Spring migrant May 3, 7 and 10.

M ✓ Geothlypis trichas trichas (Linnaeus) winter

M ✓ Geothlypis trichas brachidactyla (Swainson) winter

M ✓ Geothlypis trichas typhicola Burleigh winter

Chamaethlypis poliocephala palpebralis (Ridgway) Lowlands to 2500 ft in mountain slopes

M. ✓ Icteria virens virens (Linnaeus) winter

Granatellus sallaei sallaei (Bonaparte) Tres Zapotes and Tapacoyan

M ✓ Wilsonia citrina (Boddaert) winter

M ✓ Wilsonia pusilla pusilla (Wilson) Tres Zapotes March 4 and 26, San Martín April 22

M ✓ Wilsonia pusilla pileolata (Pallas) winter

M ✓ Wilsonia pusilla chryseola Ridgway March 8 and 26

M ✓ Wilsonia canadensis (Linnaeus) migrant April 16 and May 7

M ✓ Setophaga ruticilla (Linnaeus) winter and in passage

Myioborus miniatus molochinus Wetmore San Martín above 2500 feet

x Basileuterus culicivorus culicivorus (Lichtenstein) Cerro de Tres Lagunas above 1000 feet common

— Basileuterus belli scitulus Nelson Straggler to lowlands Tlacotalpam Feb. 7 and Tres Zapotes Jan. 26 San Martín above 3500 feet

— Basileuterus rufifrons salvini (Cherrie) Lowlands to 3000 feet in mountains.

Family Icteridae

Gymnostinops montezuma (Lesson) rare. Lowlands.

Amblycercus holosericeus holosericeus (Lichtenstein) Lowlands

Tangavius aeneus aeneus (Wagler) Lowlands

M ✓ Molothrus ater ater (Boddaert) Tlacotalpam February 16, 1940

Cassidix mexicanus mexicanus (Gmelin) Lowlands

Dives dives dives (Lichtenstein) Lowlands to Tapacoyan

M ✓ Icterus galbula Linnaeus winter and in passage

M ✓ Icterus spurius (Linnaeus) " " " "

Icterus fuertesi Chapman Tlacotalpam May 17, 1940

Family Icteridae (Cont'd.)

Icterus prosthemelas (Strickland) Tres Zapotes and El Conejo

Icterus mesomelas mesomelas (Wagler) Tres Zapotes and Tlacotalpam

Icterus gularis tamaulipensis Ridgway Tres Zapotes, Tlacotalpam, El Conejo.

Agelaius phoeniceus richmondi Nelson Tres Zapotes and Tlacotalpam

Sturnella magna mexicana P. L.Sclater Tres Zapotes and Tlacotalpam

Family Thraupidae

Tanagra lauta lauta Bangs and Penard Tres Zapotes

Tanagra gouldi gouldi (P. L.Sclater) Cerro de Tuxtla between 1000-2500 feet

Thraupis episcopus diaconus (Lesson) Lowlands, Tres Zapotes, Tlacotalpam, El Conejo

Thraupis abbas (Lichtenstein) Tres Zapotes, El Conejo

Phlogothraupis sanguinolenta sanguinolenta (Lesson) Tres Zapotes to lower slopes of Mtns

M ✓ Piranga rubra rubra (Linnaeus) winter visitor and migrant

– Piranga leucoptera leucoptera Trudeau Summit of Cerro de Tuxtla

Habia rubica rubicoides (Lafresnaye) Tres Zapotes to 2500 feet in mountains
more common in winter

Habia salvini salvini (Berlepsch) Tres Zapotes to 2500 feet in mountains
more common in lowlands

– Lanio aurantius Lafresnaye Sierra de Tuxtla common to 2500 feet
Tres Zapotes Jan. 26, Feb. 28

Eucometis penicillata pallida Berlepsch Tres Zapotes

– Chlorospingus ophthalmicus ophthalmicus (DuBus) Highest elevations in mtns.
on Tres Zapotes Jan. 17

Family Fringillidae

Saltator atriceps suffuscus Wetmore Tres Zapotes

Saltator maximus gigantodes Cabanis Tres Zapotes

Saltator coerulescens gradis (Lichtenstein) Tres Zapotes and Tlacotalpam

Caryothraustes poliogaster poliogaster (DuBus) Tres Zapotes to 2500 feet in mountains

Richmondena cardinalis coccinea (Ridgway) Lowlands

M ✓ Hedymeles ludovicianus (Linnaeus) Tres Zapotes March 30

✓ Guiraca caerulea interfusa Dwight and Griscom Tres Zapotes, March 21

Family Fringillidae (Cont'd.)

Cyanocompsa parellina parellina (Bonaparte) 1000 feet Cerro de Tacotta

Cyanocompsa cyanoides concreta (DuBus) Tres Zapotes to 1000 feet in mountains

M ✓ Passerina cyanea (Linnaeus) ~~Not~~ found in winter

M ✓ Passerina ciris ciris (Linnaeus) March 4, 1940

M ✓ Passerina ciris pallidior Mearns winter

Tiaris olivacea pusilla Swainson Tres Zapotes to lower slopes of mountains

Sporophila torqueola morelleti (Bonaparte) Lowlands to lower slopes of mts in Clearings

Oryzoborus funereus P. L. Sclater Tres Zapotes

Volatinia jacarina atronitens Todd Tres Zapotes

Atlapetes apertus Wetmore Sierra de Tuxtla above 2500 feet

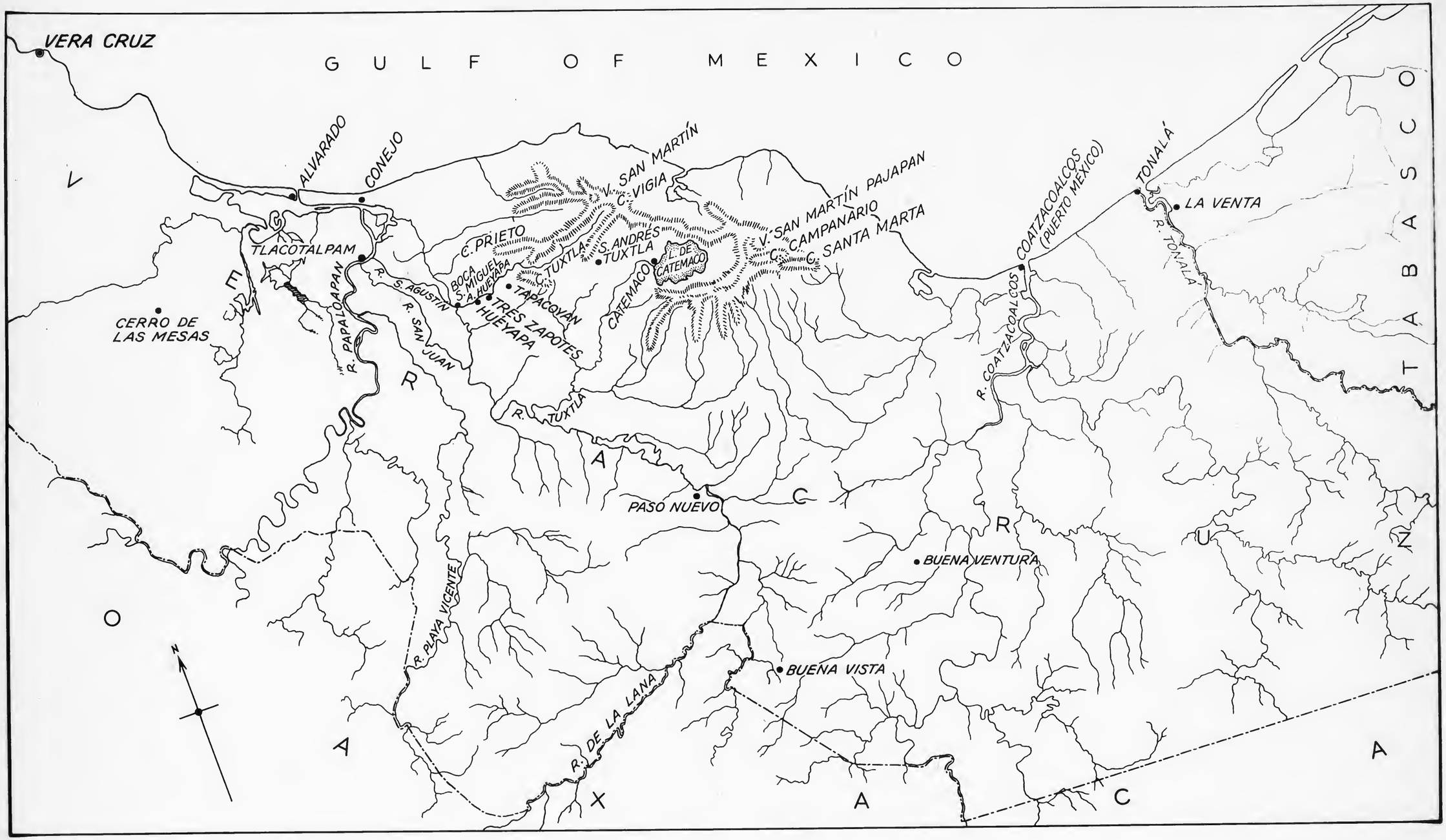
Arremonops rufivirgatus crassirostris (Ridgway) Lowlands to lower slopes of mountains

M ✓ Passerculus sandwichensis savanna (Wilson) winter lowlands.

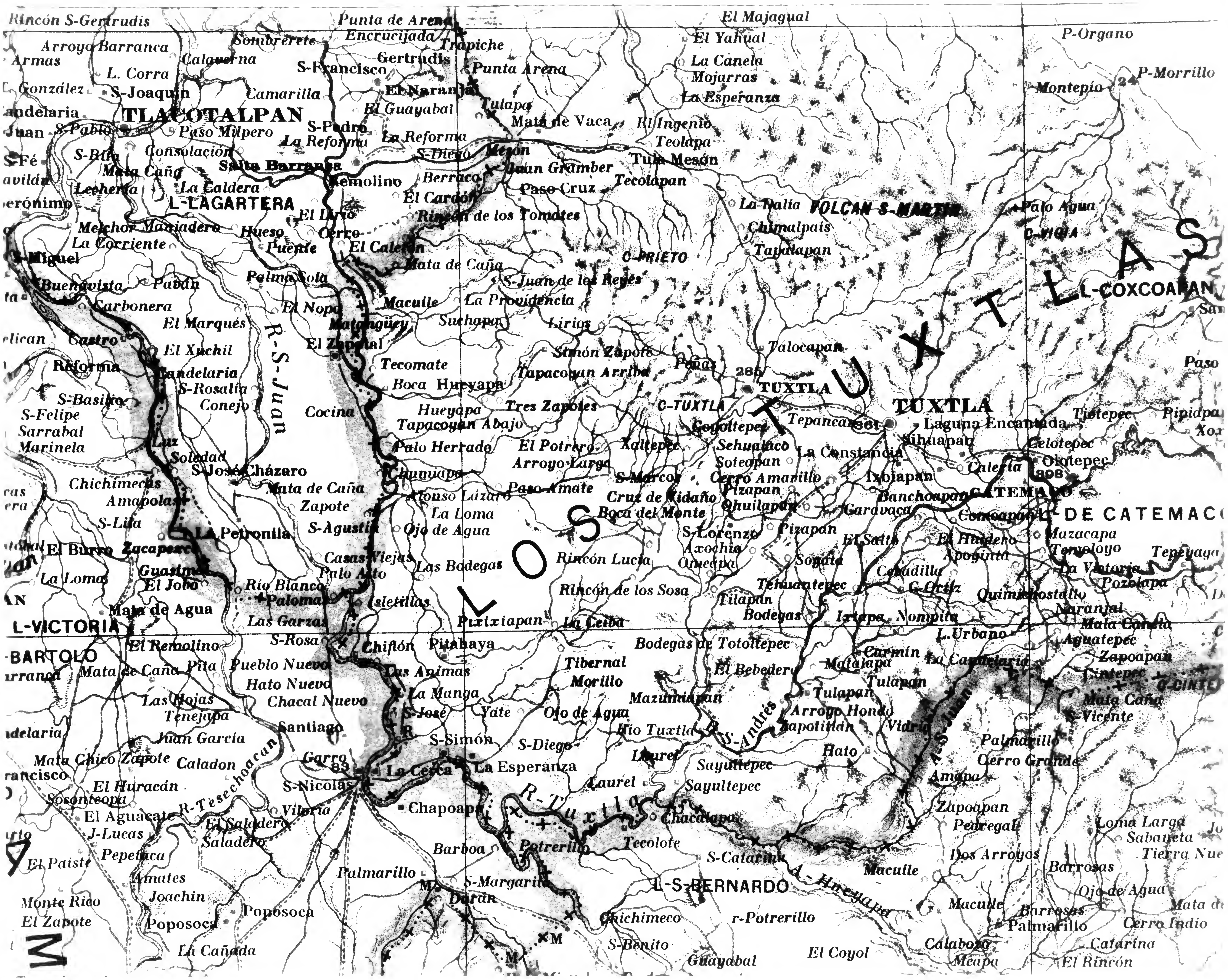
M ✓ Ammodramus savannarum pratensis (Vieillot) winter El Conejo

M ✓ Chondestes grammacus strigatus Swainson winter El Conejo

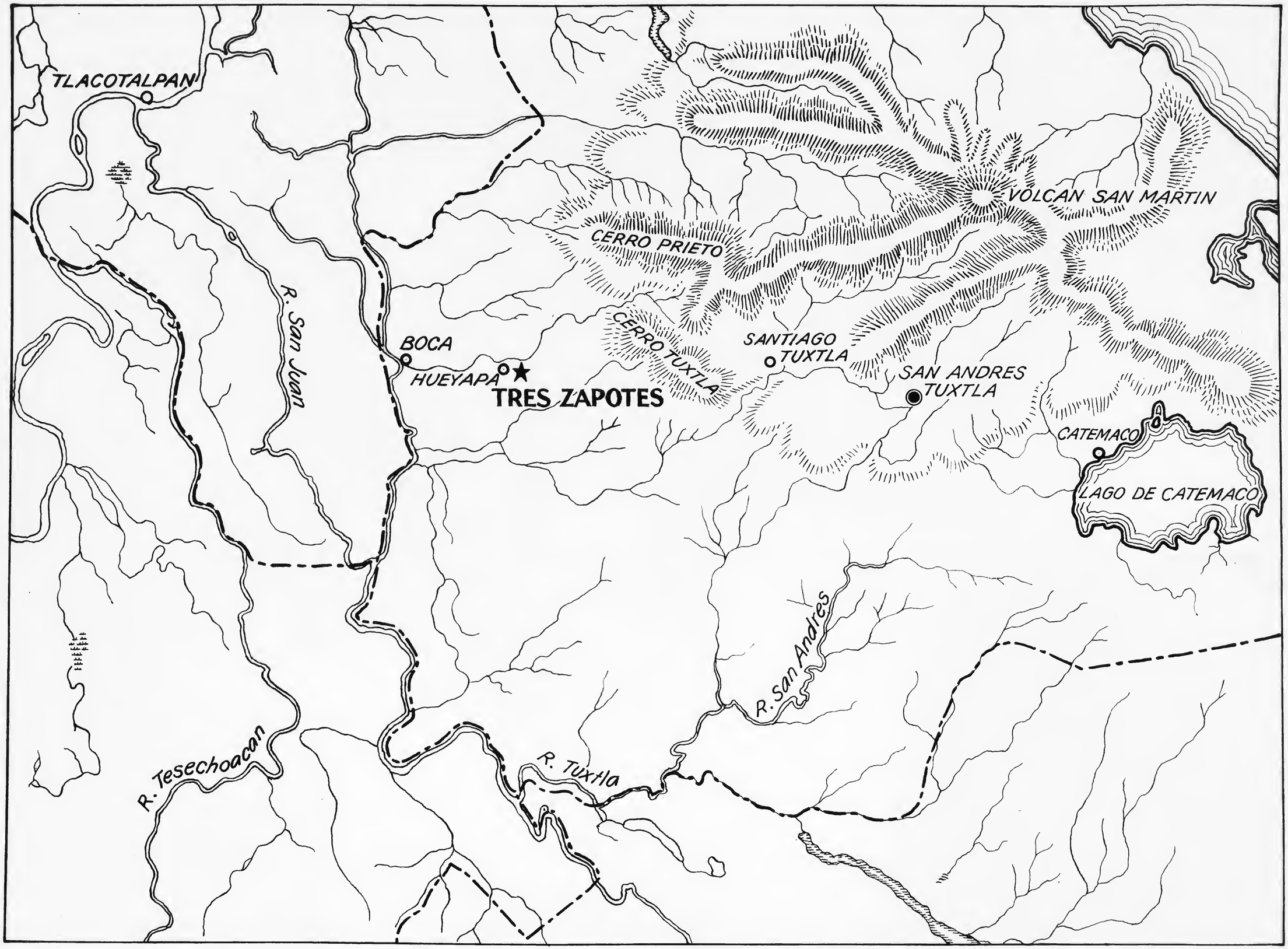
M ✓ Melospiza lincolnii lincolnii (Audubon) winter. doubtful spring migrant lowlands.


VERA CRUZ
GULF OF MEXICO
TABASCO
ALVARADO
CONEJO
V. SAN MARTÍN
C. VIGIA
C. PRIETO
V. SAN MARTÍN PAJAPAN
C. CAMPANARIO
C. SANTA MARTA
COATZACOALCOS (PUERTO MEXICO)
TONALÁ
LA VENTA
R. TONALÁ
TLACOTALPAM
R. PAPALOAPAN
R. S. AGUSTÍN
R. SAN JUAN
BOCA S. MIGUEL
S. A. HUEYAPA
C. TUXTLA
S. ANDRÉS TUXTLA
L. DE CATEMACO
CATEMACO
TRES ZAPOTES
TAPACOYAN
HUEYAPA
R. TUXTLA
R. COATZACOALCOS
CERRO DE LAS MESAS
PASO NUEVO
BUENA VENTURA
BUENA VISTA
R. PLAYA VICENTE
R. DE LA LANA
N

36137



LOS TUXTLAS
TLACOTALPAN
L-LAGARTERA
L-VICTORIA
L-COXCOAPAN
L-DE CATEMACO
L-S-BERNARDO
TUXTLA
CATEMACO
VOLCAN S-MARTIN
C-PRIETO
C-TUXTLA
C-VIGIA
R-S-Juan
R-Tesechoacan
R-Tuxtla
R-S-Andrés
A-Hueyapa
Rincón S-Gertrudis
Punta de Arena
El Majagual
P-Organo
P-Morrillo
Montepío
Arroyo Barranca
Sombrerete
Encrucijada
Trapiche
El Yahual
La Canela
Mojarras
La Esperanza
L. Corra
Calaverna
S-Francisco
Gertrudis
Punta Arena
S-Joaquín
Camarilla
El Naranjal
Tulapa
Mata de Vaca
El Ingenio
Teolapa
Candelaria
S-Pablo
Paso Milpero
S-Pedro
La Reforma
El Guayabal
S-Diego
Mesón
Tula Mesón
Consolación
Salta Barranca
Remolino
Berraco
Juan Gramber
Tecolapan
Mata Caña
Lechería
La Caldera
El Cardón
Paso Cruz
La Dalia
Palo Agua
Rincón de los Tomates
Melchor Maniadero
La Corriente
Hueso
Puente
El Lirio
Cerro
El Calerón
Chimalpais
Tapalapan
S-Miguel
Buenavista
Pabán
Palma Sola
Mata de Caña
S-Juan de los Reyes
Carbonera
El Marqués
El Nopo
Macuile
La Providencia
Suchapa
Lirios
Castro
El Xuchil
Matanguey
El Zapotal
Simón Zapote
Talocapan
Reforma
Candelaria
S-Rosalia
Conejo
Tecomate
Tapacoyan Arriba
Peñas
Boca
Hueyapa
S-Basilio
S-Felipe
Sarrabal
Marinela
Cocina
Tres Zapotes
Tapacoyan Abajo
Cuyoltepec
Tepancan
Laguna Encantada
Tlapepec
Palo Herrado
El Potrero
Arroyo Largo
Xaltepec
Sehualaco
Soteapan
La Constancia
Sihuapan
Celotepec
Olotepec
Caleria
Luz
Soledad
S-José Cházaro
Chichimecas
Amapolas
Chunuapa
Paso Amate
S-Marcos
Cerro Amarillo
Pizapan
Ixtlapan
Banchoapan
Mata de Caña
Zapote
Alonso Lázaro
La Loma
Cruz de Vidaño
Boca del Monte
Chuilapan
Caravaca
Concapan
S-Lila
La Petronila
S-Agustín
Ojo de Agua
S-Lorenzo
Axochia
Omeapa
El Salto
El Hudero
Apoginta
Mazacapa
Temoloyo
Tepeyaga
El Burro
Zacapexco
Guasima
El Jobo
La Loma
Casas Viejas
Palo Alto
Las Bodegas
Rincón Lucía
Sogata
Cañadilla
C-Ortiz
La Victoria
Pozolapa
Río Blanco
Paloma
Isletillas
Rincón de los Sosa
Tehuantepec
Tilapan
Quimichostallo
Naranjal
Mata de Agua
Las Garzas
Pixixiapan
La Ceiba
Bodegas
Ixtapa
Nompita
Mata Canela
L.Urbano
Aguatepec
El Remolino
S-Rosa
Chiflón
Pitahaya
Bodegas de Totoltepec
Carmín
BARTOLO
Mata de Caña
Pita
Pueblo Nuevo
Tibernal
Matalapa
La Candelaria
Zapoapan
Cintepec
El Bebedero
Tulapan
Las Animas
Hato Nuevo
Morillo
Las Hojas
Chacal Nuevo
La Manga
Mazumiapan
Mata Caña
Tenejapa
S-José
Yate
Ojo de Agua
Arroyo Hondo
Vidria
S-Vicente
Juan García
Santiago
Río Tuxtla
Zapotitlán
Palmarillo
S-Simón
S-Diego
Mata Chico
Zapote
Caladon
Garro
La Cerca
La Esperanza
Laurel
Sayultepec
Hato
Cerro Grande
El Huracán
S-Nicolás
Amapa
Sosonteopa
Villaria
Chapoapa
Zapoapan
El Aguacate
El Saladero
Chacalapa
Pedregal
Loma Larga
J-Lucas
Saladero
Sabaneta
Tierra Nueva
Pepetaca
Barboa
Potrerillo
Tecolote
El Paiste
S-Catarina
Dos Arroyos
Amates
Palmarillo
Macuile
Barrosas
Joachin
S-Margarita
Durán
Ojo de Agua
Monte Rico
Poposoca
Chichimeco
r-Potrerillo
Macuile
Barrosas
Palmarillo
Cerro Indio
El Zapote
Poposoca
Catarina
La Cañada
S-Benito
El Coyol
Calabozo
Guayabal
Meapa
El Rincón


TLACOTALPAN
R. San Juan
BOCA
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TRES ZAPOTES
CERRO PRIETO
CERRO TUXTLA
SANTIAGO TUXTLA
SAN ANDRES TUXTLA
VOLCAN SAN MARTIN
CATEMACO
LAGO DE CATEMACO
R. San Andres
R. Tuxtla
R. Tesechoacan

From P. W. Shufeldt.
Oct. 24, 1941

Plate 27, fig. 2.

Pl. 27, fig. 2

5

497260

26½ / mean

× 18½

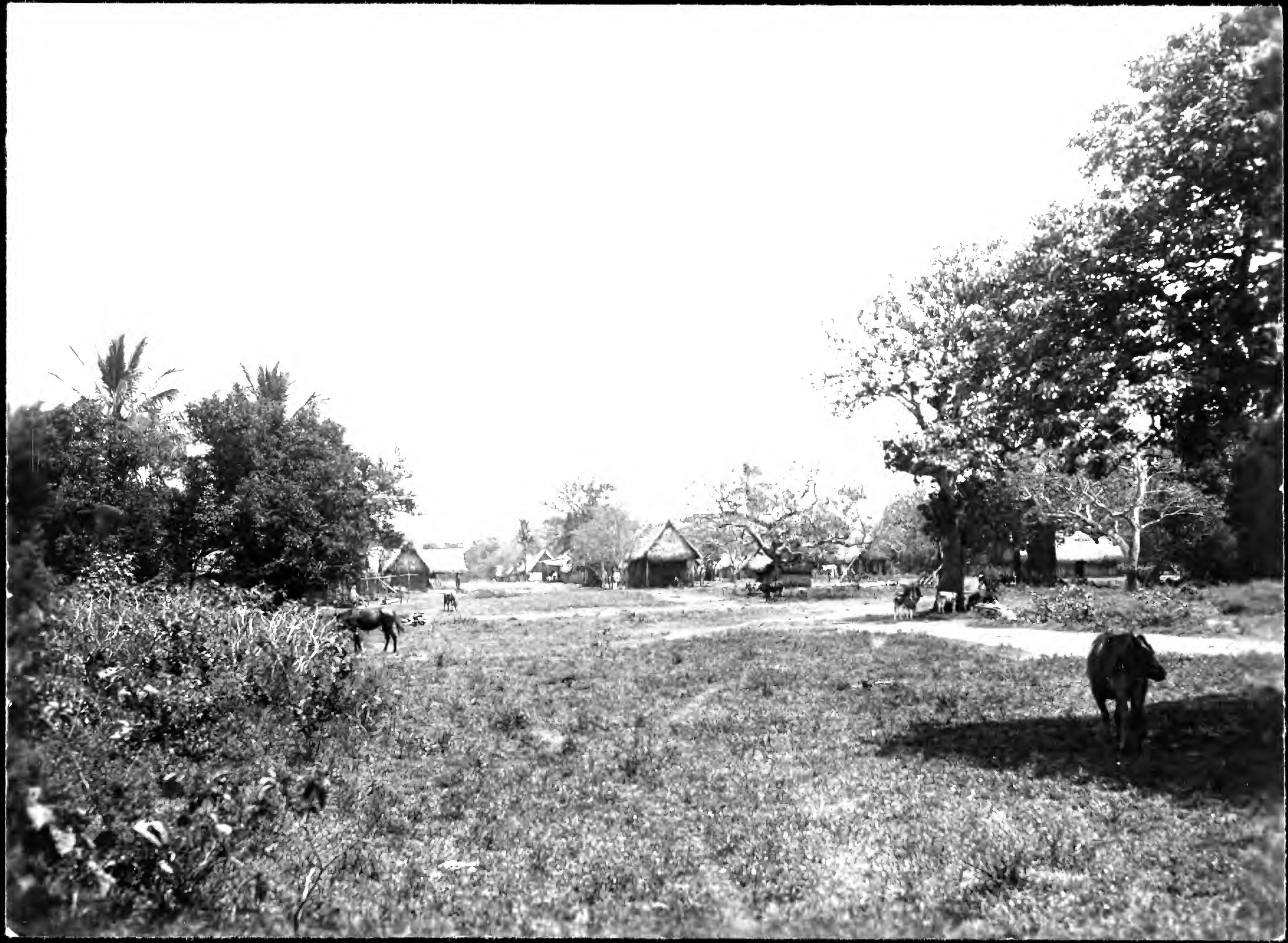
#602 Plate II, fig. 2.

7a 497260

Pl. 28, fig. 2

(1)

26½ picas × 18½



#611 Plate III, fig. 1

pl. 28, fig. 1

✓

4/8 26½ linear x 18¼

497260 6a

pl. 26, fig. 1

4 1/8 26½ picas × 16½

497260 2a

a

Pl. 27, fig. 1

26½ hrcan

× 17¼

4a